BUSINESS WEEK

WEEK AGO

YEAR AGO

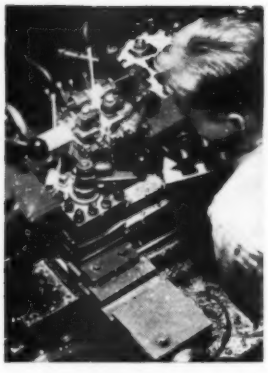
START OF WAR 1939

On the food front: Farm leaders O'Neal, Benson, and Goss carry fight against food subsidies to the White House.

U NIV OF MICH
GENL LBRY
ANN ARBOR MICH

PUBLISHED BY THE McGRAW-HILL PUBLISHING C

TWENTY CENTS



The war will never end...for American Industry

GERMANY and Japan tried to destroy this country and rule the world with tools of war—but American industry made more and better tools of war that are destroying the aggressors.

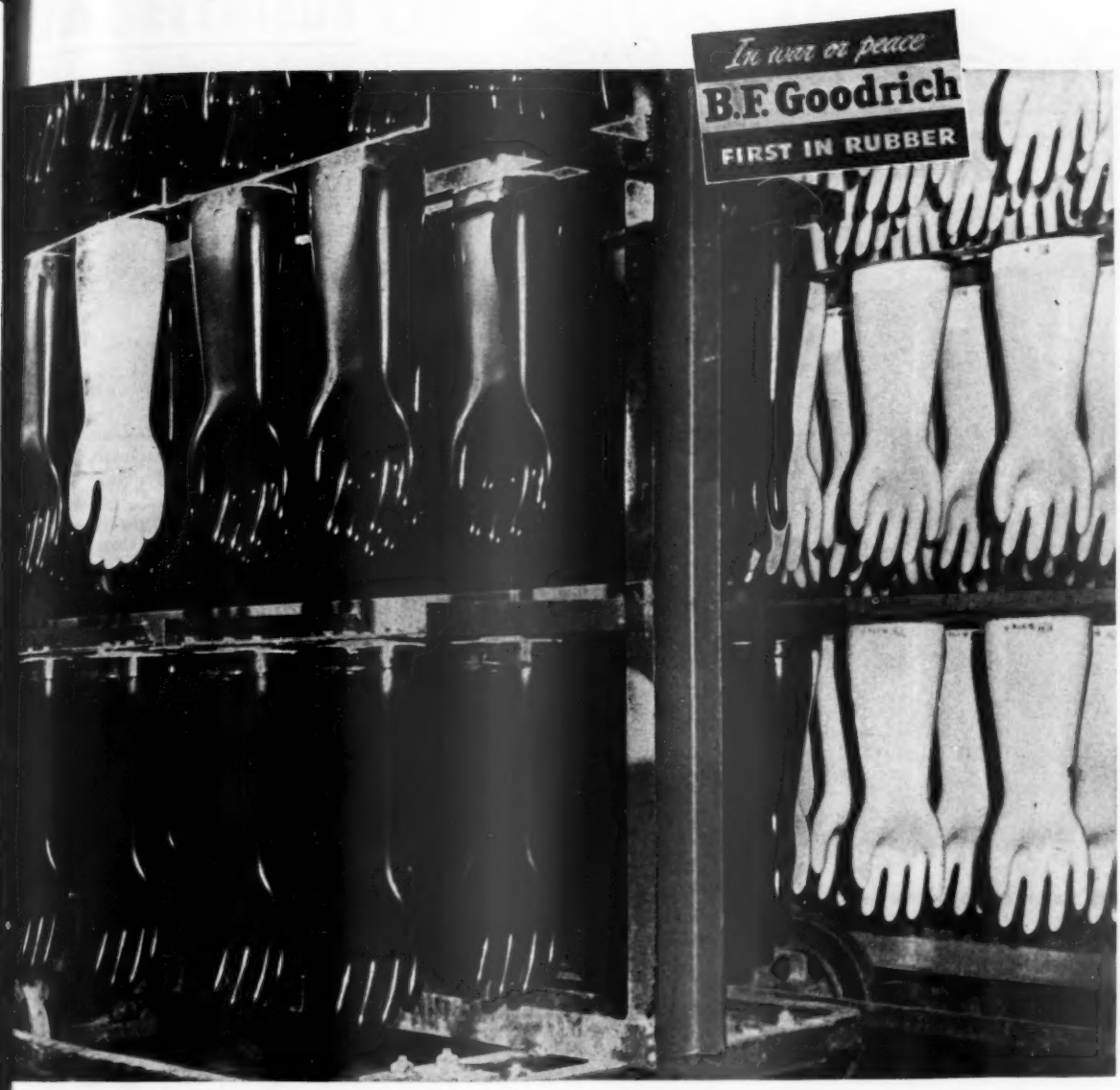
After we win the military war, Germany and Japan will try to destroy this country and rule the world by trade—by flooding us and all our markets with cheap goods that will put millions of Americans out of work. American industry has got to meet that challenge, too.

We can't compete by paying low Jap and German wages. We *can* compete and win with hig American wages if we produce enough more p man to bring the final cost below Jap and Germa prices. *That* is possible only with the most mo ern cost-reducing equipment—machine tools.

You may not be able to buy them now. But you intend to stay in business through the trad war that's coming, plan now and set aside th dollars for the Warner & Swasey Turret Lath that will keep your costs down and your men work. But *plan now.* Let's not have a commerci Pearl Harbor.

WARNER & SWASEY
Turret Lathes
Cleveland

YOU CAN TURN IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASE



They'll shake hands with 6,000 volts

typical example of B. F. Goodrich product improvement

THE pearly gates would open wide for a lineman who tried to work a 6,000-volt electric line without protective gloves. In fact, he has to wear two pairs — the outer of leather, the inner of rubber, which must have great electrical resistance. For years they've been made by dipping forms like those above in rubber solutions again and again, building up the thickness in layers. But the layers lessened the flexibility of the rubber, made the gloves stiff-fingered and awkward to work in.

When B. F. Goodrich engineers developed the Anode process for another purpose they knew they had a way to make better electricians' gloves. With it forms need be dipped only *once* in pure liquid latex to get any thickness needed. The stiffening effect of layers of rubber is avoided.

Then B. F. Goodrich research men studied human hands — made photographs and plaster casts of hands at work and hands relaxed. From these studies they designed forms to make gloves with *curved* fingers, with wrists and cuffs that make the gloves easier to get into and out of.

As a result even hard-boiled linemen are surprised at the comfort and flexibility of the new type gloves. Their difficult work is made easier — and safer, because awkwardness has been materially lessened. This is typical of the way in which one development may be used to improve many rubber products. It shows why B. F. Goodrich research is making so many valuable contributions to war and industry today, and why it will make similar contributions to peacetime industry when the war is won. *The B. F. Goodrich Co., Industrial Products Division, Akron, Ohio.*

B.F. Goodrich

RUBBER *and* SYNTHETIC *products*

X = the weak spot in war production

There was a time when a worker could miss time at his or her job, and the loss didn't matter too much. Today, there's another story. Every *working* minute we have is a *fighting* minute. Every minute lost from a job is a minute that steals some piece of fighting equipment from the hands of a fighting man.

Here at SKF, we're working day and night at top speed to turn out those sturdy ball and roller bearings so essential to mechanized war. SKF workers recognize the importance of this work, and know that time lost on the production line, is a costly loss on the battle line!

SKF INDUSTRIES, INC., PHILA., PA. 5240

BUSINESS WEEK

WHERE TO FIND IT

Washington Bulletin ....
Figures of the Week..... ... ..
The Outlook .. . .
General News .. . .
The War—and Business Abroad..... 4
Canada 5
Production 6
New Products ....
War Business Checklist.. . ...
Marketing 8
Labor 9
Finance 10
The Markets ... .10
The Trading Post 11
The Trend 11

THE PICTURES

Cover—Acme; 7—Harris & Ewing; 15, 16—Acme; 19—Harris & Ewing; 22—Acme; 24—Harris & Ewing; 30—Press Assn.; 34—Int. News; 37, 38 (above); 44—Acme; 76—Triangle; 89—Acme; 99—Int. News.

THE STAFF

Publisher, Willard Chevalier • *Manager*, P. Montgomery • *Editor*, Ralph Smith • *Managing Editor*, Louis Engel • *Assistant Managing Editor*, Clark R. Pace • *News Editors*, Richard La... Raymond A. Dodd (Illustration).

Foreign, John F. Chapman • *Production*, W. Dodge • *Law*, J. A. Gerardi • *Finance*, McK. Gillingham • *Marketing*, Phyllis W... (Washington) • *Industry*, Clarence Judd (Cl... land) • *Economics*, Sanford S. Parker • *La...* M. S. Pitzele • *Washington*, Irvin D. Foos, J... L. Cobbs, Stuart Hamilton.

Editorial Assistants, Brownlee Haydon (Assis... Foreign Editor), John Hoffman, C. Arthur La... Richard M. Machol, M. J. Montgomery, Art... Richter, Margaret Timmerman, Doris I. White... *Statistician*, Alice McFall • *Librarian*, Ruth W...

Editorial Bureaus—Chicago, Arthur Van W... singen, Mary Richards • *Detroit*, Stanley Brams • *San Francisco*, Cameron Robertson... *Washington*, McGraw-Hill Bureau, Staff co... spondents throughout the United States, and... Canada, Latin America, Great Britain and... Soviet Union.

District Managers—*Atlanta*, R. C. Maultsby... *Boston*, Nelson Bond • *Chicago*, Arthur C... wardine, R. N. Whittington • *Cleveland*, E. ... DeGraff, S. D. R. Smith • *Detroit*, C. ... Crandall • *Los Angeles*, R. N. Phelan • N... York, H. E. Choate, J. R. Hayes, J. H. Stev... son • *Philadelphia*, H. C. Sturm • *San Francis...* J. W. Otterson • *St. Louis*, G. G. Sears.

BUSINESS WEEK • OCTOBER 30 • NUMBER 7... (with which is combined The Annalist and t... Magazine of Business) Published weekly ... McGraw-Hill Publishing Company, Inc., Jam... H. McGraw, Founder and Honorary Chairma... PUBLICATION OFFICE, 99-129 NORT... BROADWAY, ALBANY 1, NEW YOR... EDITORIAL AND EXECUTIVE OFFICE... 330 W. 42ND ST., NEW YORK 18, N. ... James H. McGraw, Jr., President; Howa... Ehrlich, Executive Vice-President; Curtis W... McGraw, Treasurer; J. A. Gerardi, Secretar... Allow ten days for change of address About su... scriptions address: J. E. Blackburn, Jr., Director ... Circulation, Business Week, 330 W. 42nd Stree... New York 18, N. Y.

Subscription rates—United States, Mexico, ... Central and South American countries $5.00 ... year Canada $5.50 for a year. Entered as secon... class matter December 4, 1936 at the Post Offi... at Albany, N. Y., under the Act of March ... 1879. Return postage guaranteed. Printed ... U. S. A.

Copyright 1943 by the McGraw-Hill Publishing Company, Inc.

WASHINGTON BULLETIN
WHAT THE WASHINGTON NEWS MEANS TO MANAGEMENT

me-Front Limit

War production is reaching its top. at has been plain for some time. w, Washington takes it to be equally arent that civilian support of the effort is also reaching its limit. idence:

Agriculture's revolt against price con-

Labor's new offensive for increased ges;

Congressional convictions that strik- against increased taxes is one of the est means of winning at the polls a r from now.

With the elections in sight and an to the war popularly believed to President Roosevelt is being crowded m his position of justifying every- ng in the name of the war effort. e best he can wangle on any issue m here on is a more or less awkward mpromise. Politics is coming to the .

All the politicians and all the pres- e groups are assuming that Roosevelt ven though subsequent events may nge his mind—is looking to a fourth m. Hence, they are demanding that give in to at least part of their de- nds as the price of their support.

ay for Business?

Whipsawed between labor and agri- lture, the President is taking his sup- rt where he can find it. This week called in a group of business leaders the first of a series of conferences, tensibly dealing "with their participa- n in the war effort." It's hard to see at this will furnish in the way of con- rsation, in view of the statement of harles E. Wilson, WPB's production ief, that "we are approaching our oduction ceiling and that over-all ns are not so important as are gains specific items."

However the President represents his ve, it will be interpreted as another y for business-man support, at the me time that he gives what he must as not to alienate the workers, farm- s, and politicians-at-large.

▼

CD's Stockpile

Other government agencies are get- g their dander up about the stocks this and that which the Office of ivilian Defense is still husbanding, esumably against invasion.

A case in point is fire-fighting equip- ent, notably 500-gal. pump tanks.

One report is that the city of Rich- mond, Calif.—a defense center across the bay from San Francisco—is strug- gling along without any of these, while OCD's San Francisco headquarters is sitting on a nice little stockpile which it refuses to disgorge.

▼

Censorship Lifting

The time is ripe for loosening up the press and radio code. So says the Office of Censorship. What better chance war producers will get to tell in print the story of their achievements depends on how far the Army, Navy, and other war agencies agree.

It's a hard road that Byron Price's staff of censors has to travel—because the military is prone to figure that it's safer to say "no" than "yes"—but they are making slow progress.

The ban will be lifted first—maybe by Dec. 1—from production figures, mainly dealing with critical materials. Much in- formation along this line is now being released on appropriate authority

Postwar Tips

Beyond the production of materials is the whole range of production infor- mation that embraces experimental work, designs and formulas, techniques, factory layouts, etc., by which industry has achieved its colossal war produc- tion, and from which will stem many peacetime applications.

Many of these developments will be revealed just as fast as the Office of Censorship can readjust the thinking of the war agencies on secrecy needs.

▼

New Farm-Food Lobby

Secret negotiations are in progress to tie food processing and distributing trade associations into the farm bloc's fight against the White House food sub- sidy program. Vehicle for uniting the two groups, which have long been ene- mies, is a proposal to convert the pri- vately sponsored Food Industries War Committee into a war council on foods.

The present committee, backed by the Grocery Manufacturers Assn.'s Paul Willis and General Foods' Clarence Francis, represents certain groups in food processing and distributing.

Under the new plan, which will be passed on Nov. 10, the committee would be expanded to include all major food processing and distributing groups. Then it would be consolidated in a war coun- cil with representatives of the Farm Bu- reau Federation, National Grange, and National Council of Farm Cooperatives.

▼

New Scrap Paper Drive

A hard nation-wide drive is coming up for collection of scrap paper. The fam- ine is hitting all industries, and stocks in some categories are practically nil.

WPB is over a barrel because of the bungling of the first drive early in the war, when collectors, voluntary and com- mercial, were left with a large amount of the stuff on their hands.

OPA is being pressured to come through with higher price ceilings.

▼

Termination Compromise

After watching Comptroller General Lindsay C. Warren and Under Secre- tary of War Robert P. Patterson slug it out (page 22), the House Military Af- fairs Committee is looking for a com- promise on contract termination policy.

This week the committee was talking about dividing authority for the final audit. Under this proposal, the services would spot-check claims on canceled contracts and pay 75% in advance. If the contractor could show that he needed more money, the services would have the power to guarantee loans up to the remaining 25% of the settlement.

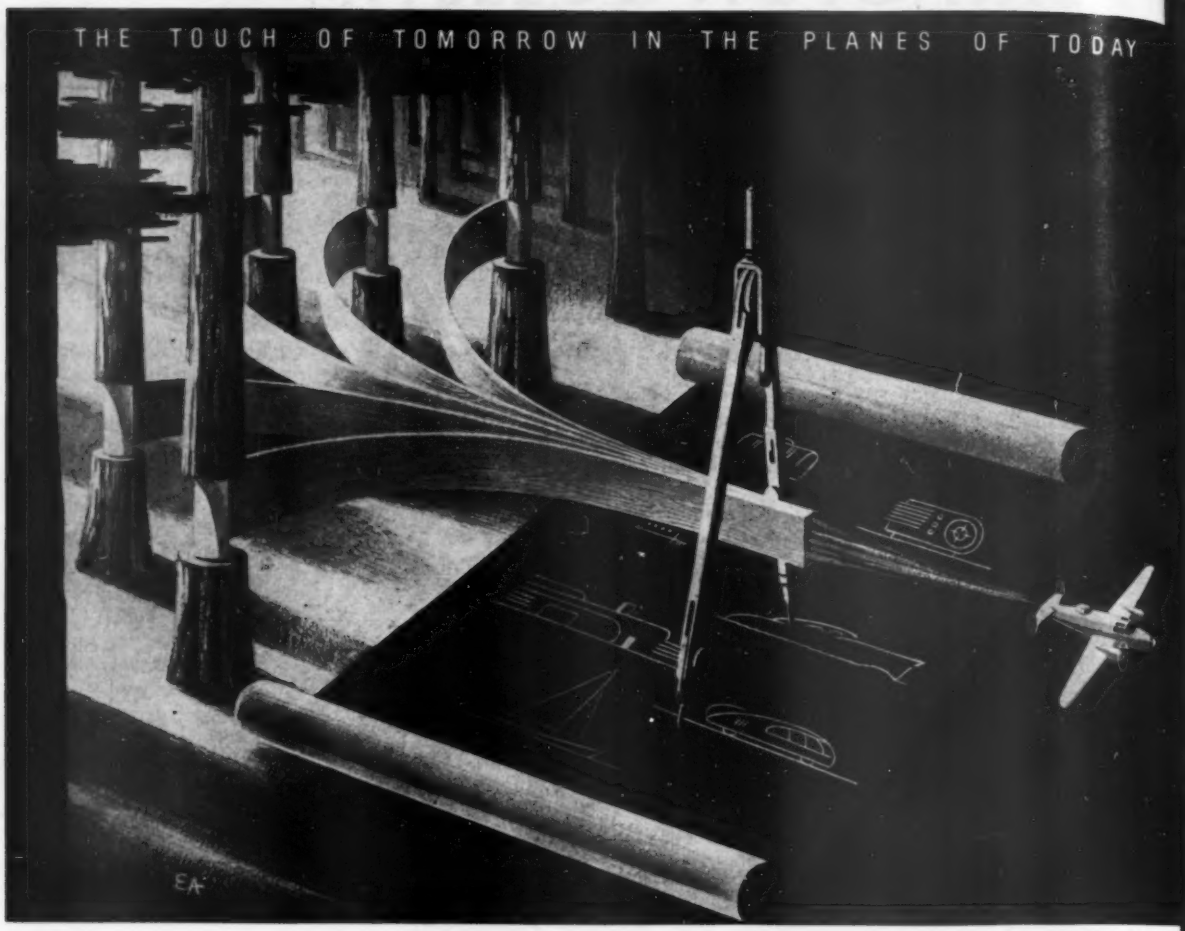
The procurement agencies would make a final administrative determina- tion of the value of fabricated inven- tories and work in process. All other charges—overhead, special expenses, etc. —would be subject to audit by the Gen- eral Accounting Office.

Neither the Comptroller General nor the Army wants to yield, but the com- mittee's compromise probably would be as easy for them to swallow as any.

Truman Edging In

Eventually the committee may set up standards for determining what costs are to be allowable in termination settle-

Other Washington reports in this issue include: Truce on Profits, page 16; Patton Mends His Political Fences, 22; No Rubber Stamp, 22; PAW Talks Back, 27; Canner Con- flict, 86; Too Cooperative, 96; Leave for Mothers, 100. Washington trends of importance to management are also discussed weekly in The Outlook and other regular departments of Business Week.



A New Industry Comes Out of the Woods

Plywood, the structural material of the future, takes to the skies today. Planes of many types are now being made of plywood, superior in certain characteristics even to fine steel or aluminum.

With war-time expansion of plane production, Fairchild foresaw shortages in the light metals. Research and engineering development of plywood at Fairchild were given a great stimulus. New data and new techniques were developed, made possible by recently perfected adhesives. Plywood craftsmanship jumped ahead many years in a few short months.

By a patented Fairchild process, known as DURAMOLD, layer-on-layer of wood, laid cross-grain and permanently joined with special resins under heat and pressure, may now be molded into single and multi-curved structural surfaces of consistently high quality.

DURAMOLD possesses some distinct advantages over metal aircraft surfaces. It is more fire-resistant. It makes lighter, stronger planes; the rigid DURAMOLD shell is its own support, eliminating the need for a great clutter of interna stiffeners, bulkheads, and other reinforcing members neces sary in thin metal construction. It does not wrinkle no buckle in the airstream, as does a metal surface. Ther are no non-flush rivets, as no rivets are required. Thus, i is *smoother* in the air . . . horsepower is not handicappe by increased "drag." The plane can fly faster, is mor maneuverable and has greater lift and range in the fiel of high-speed performance.

Production of DURAMOLD structures in spars, fa pieces, and complex curved surfaces is now concentrate within the aviation industry. Its purposes are 100% th purposes of war. But, when victory is won, the techniques facilities and craftsmanship of a new industry can an will be applied to a multitude of peace-time products.

DURAMOLD, another example of those Fairchild achieve ments which put the "touch of tomorrow in the plane of today," is available to all "priority" manufacturers

BUY U. S. WAR BONDS AND STAMPS

FAIRCHILD ENGINE AND AIRPLANE CORPORATIO

30 ROCKEFELLER PLAZA, NEW YORK

Ranger Aircraft Engines Division, Farmingdale, L.I. • Fairchild Aircraft Division, Hagerstown, Md. . . . Burlington, N. C. • Duramold Division, New York, N.

...ts, but it wants to hustle the com-...mise arrangement through ahead of ...thing else.

Writing general standards will be a ...y business, because half a dozen in-...ential congressional committees have ...s on the subject. The Truman ...mittee, for instance, is dusting off ... old proposal to exclude anything ...r 60 days' inventory from termina-...n settlements.

▼

...umina Backdown

WPB has been forced to back down ... its cancellation of three alumina-...m-clay plants in Oregon, Wyoming, ...d South Carolina, although they ...n't start producing until 1945.

Aluminum supply is easy, according ... WPB, but War Mobilization Direc-... James F. Byrnes was backed into a ...ner on the proposition by the con-...ssmen from the three states.

This is a joyous victory for Secretary ... the Interior Harold Ickes, who ...ured out a steady stream of protest ...ainst WPB's veto of what he called ...e only safeguard against precarious ...uxite supply in case of a long war.

▼

...x Rebellion

Now that it has scrapped the Treas-...y tax plan, the House Ways & Means ...ommittee needs only a little encour-...gement to come out flatly against any ...x increases in 1943.

It has already voted tentatively to ...ake no increases in personal income ...xes except those that result from in-...egration of the Victory tax and the ...egular income tax. It is also on record ...gainst a boost in estate and gift taxes. ...lthough it might permit a 5% jump ...n the corporate normal and surtax rate ...bringing it to 45%), it intends to ...ake allowances for postwar reserves ...hat would more than offset the raise.

Any House bill that carries only ...ominal increases will get a going-over ...n the Senate, but the House's attitude ...ill tend to limit the Senate's action.

...ad Judgment

Treasury strategists admit now that ...hey fumbled badly when they set the ...oal for the new tax bill at $10,500,-...000,000 in additional revenue. They ...never expected to get that much from ...Congress but thought their best bet ...was to set the goal out of sight, then ...bargain their way down.

As the committee's revolt demon-...strates, that was the worst possible ...choice of tactics.

Those Morgenthau Rumors

The resounding crash of the Treas-ury's tax program has revived rumors that Secretary Henry Morgenthau is on the way out. Backing up such speculation is the fact that Morgenthau went off on a junket to the battle fronts just at the time his tax proposals were going down for the third time.

The fact is that if Morgenthau leaves the Treasury, it will be at his own request. If the President had intended to let someone else carry the ball on taxes, the time to make the shift was before presentation of the 1943 program, not now.

Morgenthau's shortcomings as a line plunger have been pretty well measured since he tangled with Congress over the 1942 tax bill. Moreover, failure of the Administration's 1943 tax program is as much a reflection on Economic Stabilization Director Fred M. Vinson and War Mobilization Director James F. Byrnes as on Morgenthau.

BOWLES SPEEDED IN

Some observers wonder why Prentiss Brown resigned as Price Administrator last week—after hanging on all summer—just when the battle over food subsidies was really warming up. When Chester Bowles (above) came in as OPA's general manager last July, he let it be known that he was counting on Brown to carry the ball with Congress, come autumn. Answer: The Administration's political advisers figured it would be easier to get congressional approval of Bowles' nomination to succeed Brown now, before the edge has worn off the honeymoon, than later, when Congress again is likely to be after OPA's scalp.

▼

The Sugar Question

The question now is not elimination of sugar rationing, but how soon.

With imports returning to high pre-war levels, OPA is faced with the alternative of either: (1) increasing consumer rations and industrial quotas to the point where retention of the rationing program becomes ridiculous, or (2) allowing sugar to back up in offshore areas or domestic warehouses.

Providing shipping conditions remain satisfactory, the way out of this dilemma is the abandonment of rationing, but the White House may stall until well into 1944 in an effort to "sweeten up" the election campaign.

▼

Renegotiation Bogey

Don't count on the changes in contract renegotiation recommended by Rep. Wesley E. Disney's Ways & Means subcommittee.

The subcommittee has decided to go all the way with critics of renegotiation. Its seven-point program of amendments would work out like this:

(1) Put renegotiation on an after-taxes basis instead of recapturing excessive profits before taxes.

(2) Set up a hard and fast formula for determining excessive profits.

(3) Repeal the retroactive features of the law, making it apply only to contracts signed after renegotiation was established.

(4) Exempt all standard commercial articles (which would be defined as anything manufactured and cataloged before Jan. 1, 1941). Strictly interpreted this would rule out nearly everything but actual combat weapons.

(5) Allow the same cost deductions in renegotiation as in tax returns.

(6) Provide for court review of all price adjustment board decisions.

(7) Require the establishment of a central board (not necessarily the one the services have just set up) to determine policies.

The subcommittee also will recommend provision for postwar reserves, but it wants to handle this angle through an amendment to the tax law.

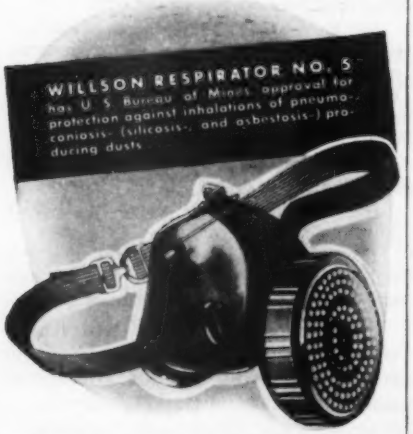
Gauntlet to Run

Disney will get a lot of support in the Ways & Means Committee, but he has gone further than most congressmen want to go. Even if the full committee underwrites his amendments,

■ **Pulmonary diseases do not always strike quickly. Often they wait two, five or even fifteen years from the time of exposure.**

Willson has long studied occupational diseases—and the dusts which produce them. And the many respirators which Willson has designed to *protect* against these dusts have won the confidence of safety executives all over the world.

All Willson protection is scientifically engineered to provide the utmost in safety and comfort. That is why so many Safety Directors and Purchasing Agents specify Willson for head, eye and lung protective products. For over 73 years Willson has been a leader in the field of accident prevention.


WILLSON RESPIRATOR NO. 5
has U. S. Bureau of Mines approval for protection against inhalations of pneumoconiosis- (silicosis-, and asbestosis-) producing dusts

GOGGLES • GAS MASKS • HELMETS • RESPIRATORS

DOUBLE WILLSON
PRODUCTS INCORPORATED
READING, PA. U.S.A.

WASHINGTON BULLETIN (Continued)

they will still have to get past the House and the Senate.

The odds are that they will be toned down considerably in the process.

▼

Less Dimout, More Brownout

Lifting of military dimout regulations on the coasts makes a nation-wide mandatory "brownout" of nonessential commercial lighting even more probable.

This was already getting serious consideration because of the practical failure of the voluntary conservation campaign instituted Sept. 15.

Easing of the military dimout on the West Coast Oct. 10 took the starch out of the campaign there, and the Office of War Utilities fears that the latest relaxation will finish it off altogether.

The electric utilities are arguing against compulsion. An order making it unlawful to sell current for any prohibited use would give them the unpleasant job of turning off the lights of refractory customers.

▼

Crowley Shakeup—

Leo T. Crowley's month-old Office of Foreign Economic Administration has swept away the independent existence of the Office of Economic Warfare, Lend-Lease, the Office of Foreign Relief & Rehabilitation Operations, and the foreign procurement activities of the Commodity Credit Corp.

Treading more lightly, and sticking to the words of the executive order establishing OFEA, Crowley also announces the take-over of "such parts of the Office of Foreign Economic Coordination as may be transferred from the State Dept."

To fulfill the functions of all superseded agencies, Crowley has created two all-inclusive bureaus—of supplies and of areas.

OFEA will maneuver policy matters in the State Dept.'s bailiwick through Assistant Secretary Dean Acheson, head of the partly dead OFEC.

—Felt by State Dept.

The earthshaking has not failed to disturb the State Dept., where it is predicted that Under Secretary Edward R. Stettinius, Jr., will eventually supplant Acheson on policy relations with OFEA.

Rumors that Nelson Rockefeller, head of the Office of Inter-American Affairs, will become an Assistant Secretary of State in charge of Latin America are at least premature. Assistant Secretary Adolph A. Berle, Jr., is now handling retired Sumner Welles' good neighboring.

DENVER HITS CEILING

The Office of Price Administration this week rushed top men to Denver to avert a threat to the agency's control that was unique so far, but might not long remain so.

Denver dairymen, pleading that they must get 2¢ more per quart of retailed fluid milk to cover increased costs, had turned down a first compromise suggestion of ceiling price increases and announced that, on Nov. 1, they would stop all retail sales and divert supplies to processors unless OPA approved their demands.

Denver's sympathetic City Council had jumped into the breach with a move to enact on Nov. 1 a city excise tax of 2¢ per quart of milk, to be turned over to the milkmen.

OPA lawyers were sure that Denver's proposed municipal subsidy would be found illegal under the Price Control Act, but the top men figured it was safer to settle without going to law.

Clem Collins, regional OPA director, was asking Washington to approve a second and better compromise offer. Walter C. Moore, manager of the Dairymen's Council, was indicating that it would get consideration if Washington said yes. And, as the news spread from Denver, OPA was keeping an eye on dairymen and sympathetic officials in other cities.

▼

Capital Gains (and Losses)

A group of New Deal newspaper publishers were cold-shouldered at the White House when they protested that much could still be done to improve the newsprint supply situation. But the heat was put on WPB immediately afterward.

One of Donald Nelson's important topics of discussion with Joseph Stalin was the prospect of disposing of U. S. surpluses of materials and equipment to Russia, both now and after the war.

The Army Service Forces is buzzing with reports of a big shakeup when Lt. Gen. Brehon B. Somervell returns from India.

—*Business Week's Washington Bureau*

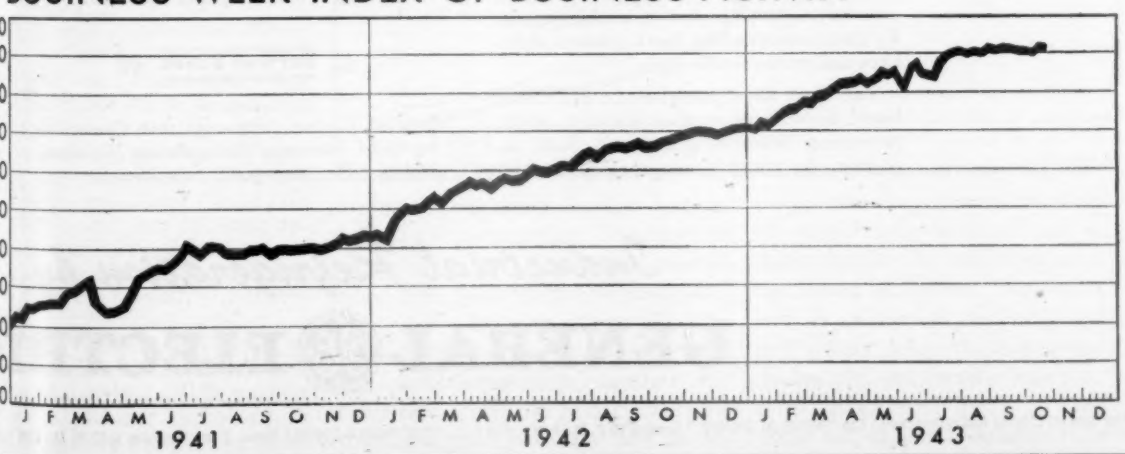
GURES OF THE WEEK

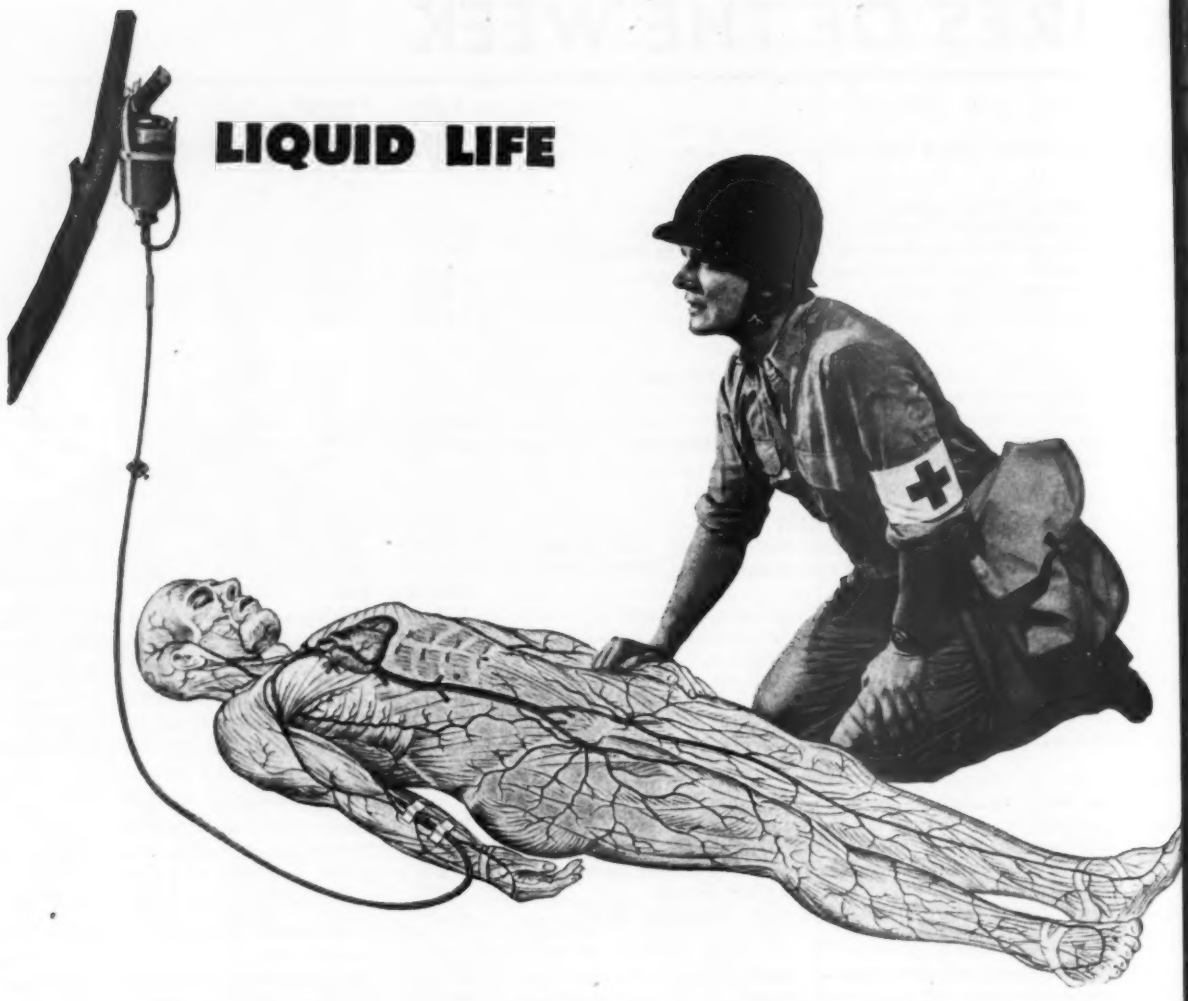
	§ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
E INDEX (see chart below)	*212.3	†212.8	211.8	204.9	189.4
DUCTION					
el Ingot Operations (% of capacity)	100.6	100.7	100.7	100.0	101.1
duction of Automobiles and Trucks	17,785	19,535	21,490	18,995	20,825
gineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	$8,057	$8,838	$8,809	$13,812	$20,361
ctric Power Output (million kilowatt-hours)	4,415	4,382	4,360	3,925	3,753
ude Oil (daily average, 1,000 bbls.)	4,410	4,412	4,344	3,913	3,917
uminous Coal (daily average, 1,000 tons)	1,958	2,008	2,008	2,003	1,926
DE					
scellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	85	84	84	79	87
Other Carloadings (daily average, 1,000 cars)	67	67	67	51	63
oney in Circulation (Wednesday series, millions)	$19,019	$18,978	$18,714	$16,500	$13,995
partment Store Sales (change from same week of preceding year)	+13%	+9%	+17%	+15%	+17%
siness Failures (Dun & Bradstreet, number)	34	36	33	96	145
ES (Average for the week)					
ot Commodity Index (Moody's, Dec. 31, 1931 = 100)	247.4	248.1	248.2	246.7	233.0
dustrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	160.5	160.4	160.6	159.6	155.6
mestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	215.7	217.6	217.4	208.5	185.2
ished Steel Composite (Steel, ton)	$56.73	$56.73	$56.73	$56.73	$56.73
ap Steel Composite (Iron Age, ton)	$19.17	$19.17	$19.17	$19.17	$19.17
pper (electrolytic, Connecticut Valley, lb.)	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
heat (No. 2, hard winter, Kansas City, bu.)	$1.53	$1.53	$1.47	$1.38	$1.20
gar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
tton (middling, ten designated markets, lb.)	20.21¢	20.31¢	20.46¢	21.14¢	18.99¢
ool Tops (New York, lb.)	$1.332	$1.353	$1.365	$1.332	$1.228
bber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
ANCE					
Stocks, Price Index (Standard & Poor's Corp.)	94.5	94.2	95.7	91.2	74.8
dium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.81%	3.81%	3.83%	3.96%	4.24%
gh Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.70%	2.69%	2.70%	2.75%	2.80%
S. Bond Yield (average of all taxable issues due or callable after twelve years)	2.30%	2.30%	2.30%	2.31%	2.32%
ll Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
me Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	½–¾%	½–¾%	½–¾%	½–¾%	½–¾%
KING (Millions of dollars)					
mand Deposits Adjusted, reporting member banks	31,366	30,742	31,624	30,313	28,431
tal Loans and Investments, reporting member banks	53,477	51,648	50,143	44,127	37,714
mmercial and Agricultural Loans, reporting member banks	6,361	†6,307	6,132	5,805	6,615
curities Loans, reporting member banks	2,857	†3,066	2,577	1,969	899
S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	38,682	36,698	55,947	30,487	23,921
her Securities Held, reporting member banks	2,914	2,941	2,952	3,226	3,442
cess Reserves, all member banks (Wednesday series)	1,410	1,610	1,893	2,293	2,352
tal Federal Reserve Credit Outstanding (Wednesday series)	9,380	9,362	9,717	6,715	4,494

*liminary, week ended October 23rd.
ing fixed by government.

† Revised.
§ Date for "Latest Week" on each series on request.

BUSINESS WEEK INDEX OF BUSINESS ACTIVITY





LIQUID LIFE

Not bullets, but *surgical shock*, has killed many a soldier in the wars of the past.

Shock is a breakdown of the blood circulatory system. Blood vessels contract. Circulation slows down, almost stops. If shock is too severe, death results.

Today, when a soldier is wounded, blood *plasma* is injected into his circulatory system. The plasma acts as a sort of pump primer . . . fills up the collapsed veins and arteries . . . starts the system working again. By thus counteracting shock, plasma saves lives and reduces suffering.

The whole blood you give at a Red Cross blood donor station goes through much processing before it gets to the front as plasma. At many points throughout the processing accurately-controlled *refrigeration* must be used.

To provide this refrigeration, General Electric has developed dependable refrigerating equipment that is more efficient, more compact and more flexible—to meet difficult war conditions.

This is only one of the many ways General Electric Refrigeration and Air Conditioning are helping to make a better world.

☆ BUY WAR BONDS ☆

General Electric Company, Air Conditioning and Commercial Refrigeration Divisions, Section 4312, Bloomfield, New Jersey.

Industrial Refrigeration by

GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "HOUR OF CHARM," Sunday 10 P. M., E W T, N B C . . . "THE WORLD TODAY" News, Every Weekday 6:45 P. M., E W T, C

HE OUTLOOK

anpower vs. Reconversion

These two are dominant factors in future of business; conflict, and labor supply will govern planning for some Postwar building and foreign trade focus attention.

o factors influencing business—orking at cross-purposes—continue e the outlook. One is the man- shortage which marks the stage mplete war mobilization. The is the possibility of reconversion approaches with victory.

ower and Mining

, of course, the first still domi- the picture. That was evidenced, ample, in WPB's decision this to shut down mines yielding low- ore, except in the cases of copper on. The minerals in question are ntiful supply for war use, and felt that manpower is too scarce mit relaxing restrictions on non- ial uses.

he same time, shortages impend h materials as coal (page 15) and (page 19) because of the lack of Business Week's statement still that "in general, relative tightness terials supply to demand will de- on whether the manpower short- more acute at the material-pro- or material-fabricating end" Aug.28'43,p13).

hen the manpower shortage will to reconversion as the primary in- e on business is still uncertain. even before mobilization of the forces reaches its close, and even those forces meet their major ean test, there arises the question mobilization during reconversion. hinges the post-Berlin, pre-Tokio supply.

Many to Whip Japan?

ly 70% of our 11,000,000 soldiers ilors are still likely to be needed Europe is won. That implies that ome 3,000,000 will be demobilized the following months.

is for such a "guesstimate" runs hing like this: Personnel of the Marines, and Coast Guard will 3,500,000, and since the force was built for Pacific fighting, most e kept. Demobilization will come rily from the roundly 7,500,000- Army.

e bulk of long-range bombing of n will be in Army hands, and additional soldiers will be used for d and amphibious operations. In ion, occupation and policing forces will be required for Europe. Together, these needs may total a minimum of 2,000,000 men. Then, too, numerous and far-flung American outposts must be garrisoned, at least temporarily, and reserve armies must be held at home during the unsettled transition period—perhaps a total of 2,500,000 more.

Presumably, the maximum of 3,000,000-odd fighters to be let out after Germany quits will be demobilized gradually during the Japanese phase, rather than abruptly. If so, the effect on the labor supply will largely be canceled out by other factors.

Labor Replacements

Some ex-warriors will return to school, and others will merely replace wives, fathers, or other relatives in the labor market. Clearly, a margin will still be left. But with the concomitant partial return to peacetime production, emphasis on cost-cutting will be renewed. Employers will replace wartime marginal workers—women, youngsters, and old persons of less skill, strength, stamina—with demobilized soldiers; and overtime will be reduced by employing more workers.

So, in the net, and entirely without regard to demand factors in the labor market, this first demobilization is apt to add only some 1,000,000 persons to the labor supply. And reduction in weekly hours per worker will offset this.

Reconversion Bottlenecks

Of course, it is demand—how many persons can be employed—that is all-important. And, after Germany is licked and munitions are cut back—perhaps by 50% (BW—Oct.23'43,p5)—the danger is that bottlenecks in plant, materials, or labor will limit reconversion and employment.

Construction is a key peacetime industry that must take up much of the munitions slack. Yet so far as reconversion may be initiated before the defeat of Germany, each industry's priority is its rank on the list of "indirect war" or "essential civilian" needs. These needs must favor such things as farm machinery, transportation equipment, and in-

Normally, consumer income and retail sales climb together. Shortages of goods since 1941, and price control since 1942, have tended to flatten the sales curve relative to income. Yet the spread between the two—excess buying power—stimulates markets for substitute goods and puts pressure on price ceilings. Now the rise in income is slowing down, as we improve the stabilization of prices and wages and complete the mobilization of materials and manpower. But retail sales still are affected by declining supplies and ceiling prices. So, the spread between sales and income won't narrow until reconversion tends to drop income but expand consumer supplies.

dustrial repair supplies, rather than passenger cars or construction.

Here, in rough, round figures, is how the construction industry's volume broke down in key months—August, 1941, the peak just prior to restrictions on nonessential building; August, 1942, the peak war month; and August, 1943, the latest month for which data are available (in millions of dollars):

Group	Aug. 1941	Aug. 1942	Aug. 1943
Total	$1,050	$1,480	$620
All Residential	350	150	150
Private Industrial and Public Utility	120	90	50
Public Industrial, Military, and Naval	300	1,090	350
All Others	280	150	70

Government war construction, which now bulks biggest, is being cut down. Upon reconversion, other types will tend to increase. But by their very nature, construction projects are slow to get under way, and expansion in peacetime work will not quickly offset contraction in war building.

Looking Into Export

Another key factor in the outlook during reconversion obviously will be exports, particularly for relief and rehabilitation. The 30th National Foreign Trade Convention meeting in New York this week sought added light on the dimensions of that factor

The convention—and, indeed, all business men—will do well to assess the implications of the bogeys set for the longer range in a new study by the Dept. of Commerce entitled "Foreign Trade After the War." It presumes that capacity national production in 1948 will require imports of 6.3 billion dollars, that service payments and foreign investment will total another 4.0 billions, and that this, less other international payments made to us, will permit exports of about 7.0 billions.

Brake on Beef

Vinson tries out nonrigid floors and ceilings, plus sliding-scale subsidies, on live cattle, trade still fears outcome.

When Fred M. Vinson, Director of Economic Stabilization, this week ordered floor and ceiling prices on live cattle, he was attempting to do something the trade said couldn't be done. Unworkable and unenforceable, feeders and meat packers agreed.

Hog floors and ceilings were bad enough, livestock men asserted, pointing to the unhappy mess which has characterized the hog market since the day ceiling prices took effect (BW—Oct. 16'43,p110). What chance would there be, they demanded, of making a ceiling stick in the cattle market, with its complex and delicately balanced system of price differentials by grade of beef?

• **A Subsidy-Penalty**—Vinson, however, has taken the matter out of the realm of debate. Strictly speaking, the brand-new cattle order issued by OES is not a price ceiling or a price floor. Top and bottom prices are set, but the packers can buy above or below them. Only catch is that they will be proportionately penalized when they come around to collect their subsidy payments.

The trade credits the dodging of rigid floors and ceilings to some of OPA's less trammeled researchers who thought up the plan as something that can be defended by legalistic argument as really not at all what it really is.

• **Started With Rollback**—Last June, in connection with a 10% rollback in retail and wholesale ceilings, Defense Supplies Corp was authorized to pay beef slaughterers a subsidy equivalent to $1.10 a cwt. (dressed weight) on cattle. The subsidy was to prevent the rollback from going clear back to the farmer; it also eased a price squeeze between the cost of live cattle and wholesale ceilings that was preventing the Army from getting adequate supplies of beef.

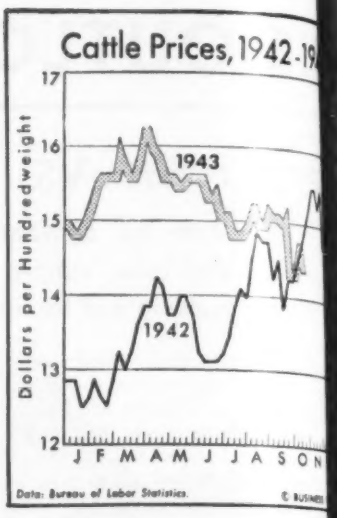
Nobody denies that the June subsidy alleviated the pain to packers' pockets, but cattlemen claim that they have not shared in the pecuniary joy.

• **New Schedules**—In this week's floor-ceiling order, OES directs DSC to adjust its subsidy computations (as of Nov. 1) and its subsidy payments to packers (as of Dec. 1) to a new scale, varying by grade. New subsidy payments and the ceilings and floors on live cattle are:

	Subsidy (per Cwt.)	Ceiling (per Cwt.)	Floor (per Cwt.)
Choice	$1.00	$16.00	$15.00
Good	1.45	15.25	14.25
Medium	.90	13.00	12.00
Common	50	11.00	11.00
Cutter and canner	.50	8.45	7.45

Obvious reason for giving second-grade beef a premium over first is to put more money into the pocket of the cattle feeder who stops short of feeding out his animals to full finish, the order thus being counted on to conserve corn and other feed concentrates. Conversely, the lowered premiums on inferior animals is calculated to discourage shipment of too much scrawny stuff.

• **And Who Wins?**—Feeders are unappreciative. They don't see any better chance to channel the new subsidy money into their pockets than hitherto, but they are quick to say it looks like a great day for the packer who is fortunate enough to kill upper grade beef critters and grade the scrubs.



When cattle prices stabilized in summer, after their spring hi OPA rolled back retail and whole levels 10%, giving the packers su dies so that the rollback wouldn' all the way back to the farmer. livestock prices have declined furt now both floors and ceilings h been set for live cattle based dressed weight. (Chart shows price trend for cattle graded "gr on a live-weight basis.)

Recognizing this possibility, the o includes a direction that the War P Administration institute a system allocation to take effect "in case int demand should be created."

• **But Not Rigid!**—Vinson's direc scrupulously sidesteps any claim of ting floors or ceilings. Says he: "Th is, and has been, no direct control the prices at which live cattle may bought or sold." The order just sets desirable ranges between which various grades should sell—and if packer wants to pay more or less t the top and bottom figures, it do him an equal amount when he colle his subsidy for the month.

Asserting that the new schedule subsidies will reduce rather than crease total payments, the order sets up a subsidy of 80¢ a cwt. for n processing slaughterers.

• **Grading Bugaboo**—Method of terminimg grades and of enforcing high-low price ranges gives the pack the creeps. Grade will be determi after slaughter, which seems to in federal graders standing over ev dressed carcass between killing and s The recipient of livestock slaugh payments is required to report mont the aggregate price paid for anim yielding meat of each grade, and aggregate weight purchased.

If it develops that the packer p

verage monthly rate which the
schedule shows is either too
or too little for the grade pur
his subsidy payments will be
d accordingly. In plain language,
cked unless his cattle buyers hit
edule right on the nose.

ge of Graders—Industry skep-
quire where the thousands of
e graders are to come from and
ll train them.
it is common knowledge in the
y that two graders rarely agree
arginal carcass, and that human
upgrades on a rising market and
rades on declines. Growers, feed-
ndlers, and packers shudder at
mplications the new order will
ace.

r Black Markets?—Livestock in-
claim the order will shift the
beef-producing industry from a
f uncertainty to a state of crush-
nfusion. Well-informed stock-
men expect more cattle to be di-
now to black market hot spots
etroit and New York.
ders say that, at current levels of
nd wages, they cannot produce
to sell at costs approved by the
chedule. Indications are that feed-
ll back away from buying cattle,
t until they get a better sense of
ion. And, if they don't buy the
coming off the range, a lot of
beef is going onto tables.

the Ranges—This order comes at
he moment when feed-lot oper-
out of the market for weeks, had
stocking in earnest. Frost struck
estern ranges last week, and stock-
began shipping the animals that
couldn't feed through the winter.
rds are the largest ever; feed sup-
per head of livestock are 15% be-
ast year. The consequence has
the greatest market run of cattle in
history.
nsas City stockyards, closest major
t to the range beef country, on
18 received 57,000 head, topping
al record that had stood for 20
and surpassing Chicago's all-time
established in 1908. Probably
of the cattle marketed recently
issouri River points were stockers
feeders—grass-fed, thin stuff at 700
900 lb. To yield the most eco-
ical tonnage of good beef, these
cattle must be fed corn and other
entrates until they add at least
her 300 lb.

inimum Feeding—The bulk of these
cattle went to Corn Belt feed lots,
operators wish now, in many in-
es, that they hadn't bought them.
doubted that they will be fed up
than 200 lb. or so, because hold-
them looks unprofitable under the
regulations.
very steer that goes to market under
0 lb. means just that much less beef
civilians.

At Stake in Coal Fight—37½¢

NWLB, intent on holding the line, won't grant miners that much more a day; while Lewis, who has realized virtually nothing on his original demands, will risk a work stoppage to get it.

Stripped of all the verbiage, this week's National War Labor Board statement of what miners could have in increased pay differed from what John L. Lewis was prepared to accept by 37½¢. But Lewis' cold silence, coupled with off-the-record comments of other mine officials, made it clear that they would insist on that 37½¢, knowing that that insistence would almost certainly precipitate another mine strike and another takeover by the government.

The board stated its case when it rejected the contract that Lewis had negotiated for his United Mine Workers with the Illinois Coal Operators Assn. It was the gravity of the situation alone which impelled NWLB to take the unprecedented step of saying just what kind of an agreement it would accept rather than to wait for another contract to be submitted to it for approval or disapproval. Its statement of how the issue could be compromised was not an award or an order; it was simply an advisory statement to the miners and the operators.

• **How Difference Arose**—The ultimate proposal which NWLB is prepared to O.K. can best be understood by an explanation of how the 37½¢ difference arose. The Illinois contract, which had been counted on to end the seven-month coal dispute, provided that miners should work 7¾ hours a day instead of the present 7 hours, and it satisfied Lewis' demand that miners should be paid for the time spent in traveling between mine entrance and workplace by providing that workers shall be paid for 8¼ hours, counting a travel time allowance figured at 45 minutes, in the light of surveys made seven years ago by the Bureau of Labor Statistics.

For their 8¼-hour day miners were to be compensated at the old-contract rate of $1 an hour, yielding a base day rate of $8.50. But in return for the concession of travel-time pay, the miners agreed that time-and-a-half overtime payments would begin at 40 hours, the standard set by the Fair Labor Standards Act, instead of 35 hours, as provided in the old miners' contract. The Illinois contract would have provided a weekly take-home pay of $56.50 for a six day week (40 hours at $1, and 11

FOR ADJUSTMENT

Goaded by the explosive railroad wage dispute, top labor leaders went to the White House this week to break the chains of wage control because, they said, living costs have not been stabilized. After the conference (below, left to right) William Green, A.F.L. chief; A. F. Whitney, railway trainmen; Anna Rosenberg, President Roosevelt's labor adviser; Philip Murray, C.I.O. head; Julius Emspak, C.I.O. electrical workers; (above) George Meany, A.F.L. treasurer; Daniel Tobin, teamsters; and R. J. Thomas, automobile workers, said that they had been assured the price-rollback program would proceed. There is, however, still no sign that President Roosevelt will order his wage-control policies relaxed.

hours at $1.50) as contrasted with prevailing pay of $45.50 for a 4½-hour shorter work week.

• **Approve 8½-Hour Day**—NWLB approved the idea of an 8½-hour day, but, determined to hold the line on wage rates, it disapproved the base pay rate of $8.50 on the ground that the miners were entitled to no more a day than they would have received under the old contract for the same amount of actual work, excluding the 45 minutes of travel time. Hence, NWLB arrived at a figure of $8.12½¢—seven hours at $1 an hour and three-quarters of an hour at time-and-a-half rates or $1.12½¢.

The board said that any acceptable contract would have to provide 37½¢ less a day—either by an outright reduction of this amount in the Illinois contract or by reducing the travel time allowed from 45 minutes to 30 minutes, which would have the same net effect, since a quarter of an hour, figured at the time-and-a-half rate of $1.50 an hour, is also 37½¢.

• **$55.50—and Fight**—The board's proposed contract, reducing pay by 37½¢ a day, would net miners $2.25 less than the Illinois agreement on a weekly basis or take-home pay of $54.25. Added to this figure, as well as to the weekly figures for the old contract and the Illinois agreement, would be $1.25 more a week (25¢ a day for the standard five-day week) which the board in an earlier decision had allowed the miners for vacation and tool allowances.

Thus, the board was able to arrive at the figure of $55.50 which it publicized this week as $10 more a week than the miners got under their old contract. Actually, this $10 consists of (1) the vacation and tools allowance of $1.25, previously granted; (2) overtime pay of $6.75 which they would have received under provisions of the old contract for the 4½ extra hours they would work a week; and (3) a differential of $2 which results from the shift in the basis for computing overtime.

Thus, with the exception of the tools and vacation allowance which he won early in the game, Lewis reaches this point in his long battle for $2 more a day, $12 more a week, with a proposal from NWLB which grants him virtually nothing more than the $6.75 overtime pay which his miners could have got under the old contract.

• **Walkouts Spread**—Meanwhile, as the board announced its stand, an estimated 40,000 miners in eight states were already on strike. The War Production Board was struggling with a gas crisis in Birmingham and industrial curtailments due to coal shortages all over Alabama. It seemed a preview of what could be expected in West Virginia, Kentucky, and other central Coal Belt states. Faced with a slowly spreading paralysis even before its rejection of the Illinois contract could evoke a reaction, NWLB headed for the White House with a request that the government resume its role as mine operator.

Best advised sources predicted that, for the time being at least, there would be no national strike call, that more and more fields would walk out with no apparent leadership from U.M.W.'s high officials. The benefit of such strategy to U.M.W. would be to immunize its leaders from punishment under the Connally-Smith act for running a strike without going through the legal strike ballot procedure. The confinement of Lewis himself to his home with "heavy cold" could fit in nicely with such strategy.

• **NLRB Not Big Enough**—Just to up the situation further, it was forecast that the miners might ask for a strike ballot under the Connally-Smith procedure. The National Labor Relations Board, which under the law must conduct such a poll upon request, is simply not equipped to undertake a national election involving some 600,000 miners. It would have to get a special fund from Congress or the Budget Bureau, and would have to assign its entire personnel to the task. Little doubt exists that miners would overwhelmingly support a strike proposition.

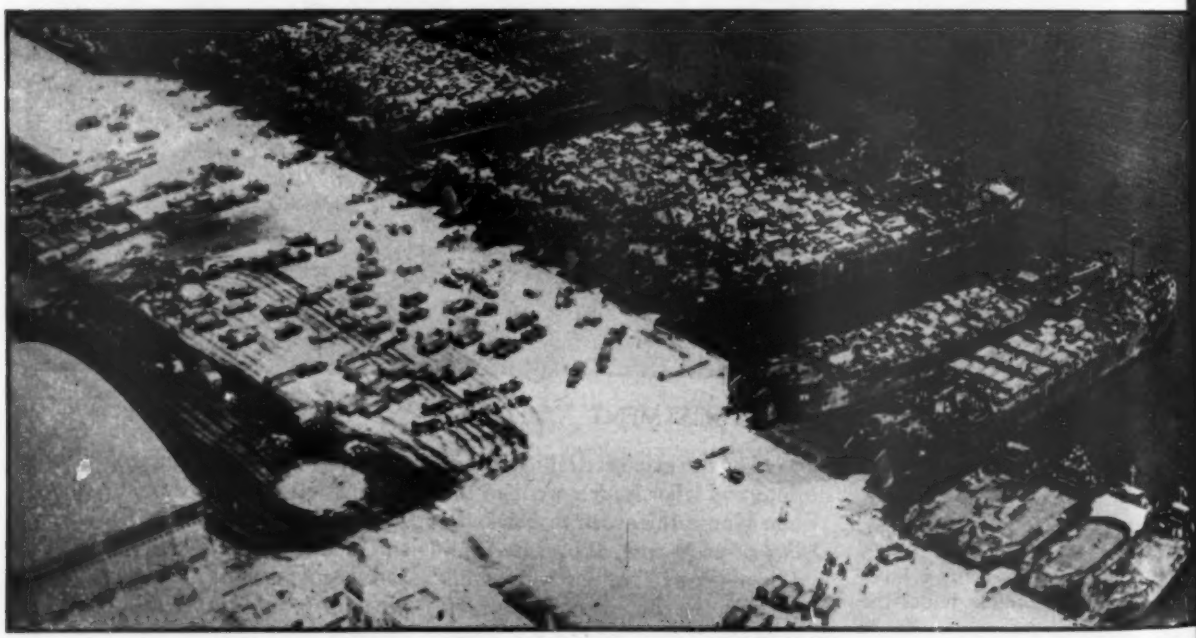
Truce on Profits

OPA isn't really retreating on idea that profits are factor in price control, but withdrawal of report is a peace bid.

Business men have frequently accused the OPA of exhibiting an unseemly interest in profits. This week the criticism struck home.

No. 8 in OPA's series of "war profit studies" and the fourth study covering an individual industry (a report on fruit and vegetable canners) was suddenly suppressed just as it was ready for general release. Now it bears the stamp "strictly confidential."

• **Shift in Emphasis**—This doesn't necessarily mean that in the future OPA



Big LST (Landing Ship-Tank) boats are the Navy's dependable pack horses of invasion (BW—Oct.25'43,p17). Loaded at North African ports, flotillas of them carried the huge cargoes needed to subdue Italy.

THE COAL MINERS' WAGE FIGHT DAY BY DAY

Mar. 10—The United Mine Workers open separate wage conferences in New York with Southern and Northern Appalachian operators. U.M.W. president, John L. Lewis, demands: $2 a day pay boost for (portal-to-portal) travel time underground, $30 annual increase (to $50) in vacation pay, compensation for occupational charges (lamps, tools, etc.).

Mar. 11—Northern operators reject U.M.W. proposals.

Mar. 12—Southern operators counter with demand that status quo be maintained for the duration of the war.

Mar. 20—Congress indicates that a strike will evoke punitive legislation.

Mar. 22—Roosevelt asks continued negotiations, continued production.

Mar. 29—Director John R. Steelman of the U. S. Conciliation Service enters negotiations.

Mar. 31—Contract expires. Work continues under 30-day extension.

Apr. 3—U.M.W. Secretary-Treasurer Thomas Kennedy resigns from NWLB as union boycott of board begins.

Apr. 6—Southern operators demand NWLB act in the dispute.

Apr. 7—Northern operators state further bargaining is useless and propose that the contract be extended for the duration. U.M.W. spurns this proposal.

Apr. 13—Labor Secretary Frances Perkins suggests a guaranteed six-day work week in coal. Miners, interpreting this as an annual wage, accept, but operators reject plan.

Apr. 21—Roosevelt recommends that the old contract be continued with a retroactive provision.

Apr. 22—Secretary Perkins certifies dispute to NWLB.

Apr. 24—NWLB opens hearings with no U.M.W. representative present. It orders existing contract extended indefinitely, provides that all subsequent adjustments be retroactive to Apr. 1. Operators accept order.

Apr. 26—Scattered coal walkouts begin, anticipating end of 30-day extension. NWLB asks miners to end strikes and names three-man panel to handle dispute after U.M.W. ignores invitation to nominate a panel member.

Apr. 27—Lewis asks Perkins to order negotiations resumed, charges that NWLB is antagonistic to miners.

Apr. 28—Perkins urges Lewis to submit dispute to NWLB and to end strikes. NWLB refers dispute to the President. Panel hearings open without U.M.W. representative present.

Apr. 29—Roosevelt demands that walkouts end by 10 a.m. May 1.

Apr. 30—Strikes spread. U.M.W. charges NWLB has prejudged its case.

May 1—General strike virtually complete at 12:01 a.m. President orders mines seized and directs Secretary Harold L. Ickes to operate them. Panel suspends hearings.

May 2—Lewis announces production will be resumed on May 4 for 15 days, just 20 minutes before the President goes on the air with a back-to-work plea.

May 4—Full coal production is resumed.

May 6—Panel resumes hearings, still without miners.

May 11—Panel completes hearing.

May 14—NWLB directs resumption of negotiations on portal-to-portal issue.

May 17—At Ickes' request, Lewis extends truce until May 31 but refuses to appear before NWLB. Ickes reported prepared to settle disputes with a compromise—$1 a day—but NWLB forbids operators to negotiate with Lewis until he appears before board for instructions.

May 18—In letter to Lewis, Ickes disavows any intent to settle case outside of NWLB.

May 20—Scattered strikes in Appalachian fields begin.

May 21—Panel issues ambiguous report appearing to rule out basic pay increase, but leaving open possibility of portal-to-portal. Endorses increased vacation allowances and pay for occupational charges.

May 25—NWLB grants miners increased vacation allowance and occupational charges, denies portal-to-portal pay, orders further bargaining on portal-to-portal issue.

May 26—Bargaining conferences resumed in Washington, Lewis renewing demand for $2 a day.

May 27—Southern operators suggest compromise. Offer 80¢ a day for 48 minutes travel time.

May 28—Lewis rejects proposal, reiterating $2 demand.

May 31—Area of disagreement narrowed to 50¢ a day in Ickes' conference with Lewis and Northern operators.

June 1—Second general strike begins at 12:01 a.m. as truce expires. Ickes appeals for a resumption of operations.

June 2—Full NWLB, James F. Byrnes, and Ickes confer with President. Negotiations ordered stopped until strike ends. Lewis brands order illegal.

June 3—President orders strikers back to job by June 7, specifying that NWLB will adjust their demands.

June 4—Lewis orders work resumed June 7 in response to a letter from Ickes. Bargaining resumes.

June 5—Lewis qualifies return by setting a June 20 deadline for a signed contract.

June 7—Illinois coal operators offer to bargain on the basis of $1.50 for portal-to-portal.

June 9—Central Pennsylvania operator group makes deal for $1.30 settlement, prepares to put terms in writing.

June 10—Strikes protest Ickes' order that miners who struck before June 1 be fined $1 a day.

June 11—Ickes permits fine question to be settled by the union and operators. Protest strikes end.

June 12—Efforts to put Pennsylvania agreement in writing fall through.

June 15—U.M.W. not represented at NWLB hearing on progress of bargaining.

June 18—NWLB again rejects portal-to-portal demand. Orders that a two-year contract be signed containing a no-strike clause.

June 19—Meeting of parties to draw up contract results in Lewis' renewing demand for portal-to-portal pay in spite of NWLB rejection.

June 20—Lewis formally rejects NWLB's order to sign contract.

June 21—Third general coal strike starts at 12:01 a.m.

June 22—Lewis calls off strike on condition that government operation continue until Oct. 31. NWLB again takes case to White House.

June 25—NWLB and Byrnes press President to force Lewis to comply with board order. President announces he does not recognize Oct. 31 deadline.

July 10—Government investigators move into Pennsylvania as continuation of strikes forces one-third of Pittsburgh area blast furnaces into idleness.

July 12—Pennsylvania strikers start back to work as government threatens prosecution.

July 21—Lewis announces agreement with Illinois operators calling for extra hour of work each day at overtime rates and settlement of portal-to-portal question at $1.25.

Aug. 3—Lewis recognizes NWLB by appearing with Illinois operators in support of Illinois agreement.

Aug. 16—NWLB authorizes operation of government-held mines eight hours a day, thus increasing miner's take-home pay. The order, however, was never put into effect.

Aug. 20—Ickes begins piece-meal return of mines to private ownership.

Aug. 25—NWLB rejects Illinois agreement as violation of stabilization program.

Aug. 31—U.M.W. files suit in Birmingham claiming portal pay under Wage-Hour act.

Sept. 9—Union and operators resume bargaining discussions.

Sept. 23—U.M.W. and Illinois operators announce a new agreement providing a daily wage increase of $1.75 for additional work time, including travel time.

Oct. 12—Ickes completes return of mines to their owners.

Oct. 13—Protest strikes start in Alabama and Indiana.

Oct. 15—NWLB calls on Lewis to urge miners' return to work.

Oct. 16—Lewis asks strikers to return to work Oct. 18, expresses confidence board will approve Illinois pact and that it will be extended to entire industry.

Oct. 17—Birmingham area blast furnaces go down for lack of coal.

Oct. 21—NWLB hears Appalachian operators' objections and U.M.W.'s support.

Oct. 26—NWLB approves portal pay allowance but rejects Illinois contract. Fourth general coal strike looms.

OPA'S EYE VIEW

The results of OPA's researches into profits are not criticism-proof, though the agency has done its best to make them so. The size and composition of OPA's samples are open to question (though researchers say they made a real effort to have them representative); so is the accuracy and validity of OPA's data—much of it taken from the confidential financial reports lodged in the agency's files; and all industry hoots at studies such as these that present profits before taxes.

In more than one instance, OPA's profit researchers have anticipated criticism. OPA expected hosiery manufacturers to howl that it wasn't fair to compare their 1942 profits with a base period (1936–39) in which many of them were losing money—that any increase would appear exorbitant. So besides reporting these profits under the routine procedure, with deficits included, OPA figured them on an adjusted basis, with deficits counted as zero. Hosiery makers showed up with a 413% profit increase under the regular system, a 337% increase on the adjusted basis.

Here is OPA's basic data on three of the four industries covered to date:

	Increase in Dollar Sales (1942 Over—1936-39)	*Increase in Profits Before Taxes (1942 Over 1936-39)*
94 Wholesale food grocers*...	43%	213%
55 Women's hosiery mfrs....	17%	413%
53 Meat packers.....	83%	335%

** Base period is 1939, instead of 1936-39 average.*

will be less interested in profits. But Chester Bowles (whose nomination as price administrator, to succeed Prentiss Brown, was sent to Congress by the President this week) and James Brownlee, OPA price chief, have decided to make that interest somewhat less blatant. Bowles and Brownlee accept the obvious—that you can't control prices without controlling profits—but they are seeing to it that there is no more talk of profit control per se.

Profits will have an important place, however, in the over-all statement of OPA price policy which Bowles and Brownlee hope to issue (if they can get it past Economic Stabilization Director Fred M. Vinson). An idea that may crop up there is that industries should be examined profitwise with respect to a base period in which they made a reasonable profit showing. Textiles, for example, would not have the same base period as meat packers.

● **The Case in Vitamins**—There's no indication, however, that the new "business man" administration in OPA will be notably lenient when it comes to profits. Nobody was more surprised than OPA's rank-and-file when Bowles and Brownlee decided to try to make the vitamin price rollback stick (BW—Sep.18'43,p92).

This was considered a clearcut case since it involved rolling back prices that had not increased under price control, simply because OPA thought that some of the benefits of manufacturers' greater volume (and bigger profits) should be passed on to consumers.

● **Companies Resentful**—While the study of canners' profits was suppressed as part of OPA's general endeavor to make friends with business, there was also a more concrete reason for putting it under lock and key. The data used in OPA's studies come from the companies themselves, and the bulk of it is submitted voluntarily (albeit, under considerable suasion). Seeing the ends to which their reports were put, some companies got their backs up.

OPA has never publicized its profits studies, but heretofore they have been freely available to anyone who would take the trouble to ask for them. Over half of the printing of 1,500 copies of the meat packer report was gone three days after it came out.

● **Reports in the Mill**—In spite of the soft pedal on publicity, OPA's research division is going right ahead with its investigation into profits. Study No. 14 on textiles (which will show the industry's profits up some 600% over the base period) is near completion. Dairy products may be the next to be studied.

While, presumably, no more studies on specific industries will be made public, there's a chance that No. 10 in the profits' series, which will show how 2,500 manufacturing corporations of all types fared profitwise in 1942, may be allowed to leak out. (Incidentally, OPA researchers are happy because this will bear out a prediction they made in study No. 4—that manufacturers' 1942 profits would increase 40% over 1941.)

Study No. 11 will cover the profits of 1,200 corporations in the first six months of '43. Both 12 and 13 will delve into war contractors' profits. Nos. 10 through 14 will simply bring up to date studies 1 through 4 which gave the same data for 1941, and the first half of '42.

● **Some of the Findings**—Here are a few highlights of the studies on wholesale grocers, hosiery manufacturers, and meat packers:

Wholesale grocers—While large companies showed the biggest sales increases in '42 (as compared with '39), small companies made the best comparative profit showing—probably because they had further to climb; many of t were in the red in '39.

Women's hosiery manufactu Though dollar sales in 1942 la 4% behind 1941, profits before were 27% higher. Full-fashioned m facturers, benefiting from the intro tion of nylon hosiery, had the bi profit increases in '41; seamless m facturers, as a result of their longe perience with rayon, did better in Since 1936, profit margins have consistently highest for makers l by OPA as producers of semibran hosiery. Because of the big sales g made by manufacturers of sea hosiery since 1939, the unbran group has a better over-all profit sh ing than the branded. But on fashioned hosiery alone, profit ma have been higher for branded than unbranded makers.

Meat packers—While the whole dustry has gained ground since 1 small companies fared worse—profit

THE SHOWING BY LINES

Here's the roll call of OPA' profit studies, those complete and those yet to come:

Studies Completed

No. 1—Profits of 1,753 larg industrial corporations, 1939–41.

No. 2—Profits of 200 important war contractors, 1939–41.

No. 3, Part I—Comparativ profits of 22 war contractors an 1,599 other large industrial corpo rations, 1939–41.

No. 3, Part II—Profits of con solidated corporations and "war" subsidiaries, 1939–41.

No. 4—Corporate profits in the first six months of 1942, including a comparison of war contractors and others.

No. 5—Profits for the first quarters, 1942 and 1943, of 750 large industrial corporations.

No. 6—Profits, 1939–42, of wholesale food grocers.

No. 7—Profits, 1936–42, of women's hosiery manufacturers.

No. 8—Profits, 1936–42, of fruit and vegetable canners.

No. 9—Profits, 1936–39, of meat packers.

Projected Studies

No. 10—Profits of 2,500 manufacturing corporations, 1936–42.

No. 11—Profits of 1,200 corporations in the first six months of 1943.

Nos. 12-13—Profits of war contractors, 1942.

No. 14—Profits of textile companies, 1936–42.

2 than in '41, in spite of sub-
l sales gains. Large companies
ill bettering themselves last year,
edium-sized companies (1942
of $5,000,000 to $50,000,000)
est of all. (Incidentally, it is
ood that the suppressed canners'
shows just the reverse—that small
s made out better in '42 than the
d middle-sized fellows.)

per Is Critical

Production to be off 27% year in U. S., Canada, and d Kingdom; lack of woods blamed in report.

mbined paper requirements of the
d States, Canada, and the United
om for 1944 exceed 1943 by
But 1944 production probably
ll 27% short of 1943, which adds
a major emergency.
thority for these figures, and a lot
ther depressing statistics which
ington and the paper industry last
studied, is the Combined Pulp &
Committee of the three coun-

Out the Truth—The three-man
ittee was set up months ago, with
mber representing each nation and
f of top-flight men hand-picked
the industry. Sole responsibility
d on this body was to dig out the
truth and report about paper as
ritatively as the Baruch committee
ted about rubber.
any optimist inside or outside the
inistration still clings to a rosy view
per prospects, he has not read the
newly served up by the commit-
preliminary report. There are 32
y pages of tables, charts, and text.
final report, says the preface, may
ate different requirements by types
per, but the basic facts of the in-
y's deficit of production under
n requirements are to be trusted.

bor Pinch—Crux of the crisis is
age of woods labor to fell the trees,
em to length, stack the cordwood,
haul it to market. So great is the
ency, the report asserts, that "if
ditional woods labor is made avail-
the entire elimination of news
would fail to balance the budget."
per mills here and there in recent
s have been shutting down all or
of their capacity for lack of wood
pulp, which is made from wood.
le to get pulp wood to keep his ma-
es running, one northern paper
r locked the door and sent his
workers into the woods at factory
s to cut a woodpile so that he could
tually resume operation.
lp, paper, and paperboard have,
g the war emergency, been looked upon as one unfailing and unlimited source of raw material, drawn upon to substitute for many critical materials.

• **Wages Frozen Low**—Meanwhile, manpower has been recklessly drained out of the woods because wage rates are frozen at levels too low to compete with industries no more essential than paper.

The committee's manpower figures have as yet drawn no serious criticism. Official estimate is that to meet the requirements of the coming year would demand huge additional labor supplies: 18,500 men in the U. S. working an average of 225 days a year in the woods, and 20,000 working in Canada east of the Rockies for 100 days a year.

• **It's a Career**—Logging pulpwood is heavy work; it requires strength, endurance, skill, and know-how. Young men who have grown up with ax in hand must do the job; nobody else can cut and stack three cords a day to earn wages. Only in Quebec, believe the woods bosses of the paper companies, is there left any worthwhile number of woodsmen who might be switched to pulpwood cutting.

Excellent index of the manpower situation elsewhere is the experience of a big mill in central Wisconsin. Of its annual requirements of 70,000 cords of wood, this mill has for 40 years obtained 6,000 to 8,000 cords each winter from neighboring small cutters who brought it in unsolicited.

• **Farmers Help**—Northern mills get 45% of their wood supply from farmers and small tract operators, buy the rest from logging companies, or operate cutting crews in their own timber. Southern mills get 55% from small tracts.

Another difference between North and South is in time lag between woods and paper. Northern pulpwood must be air dried for several months before it can go into process, hence northern mills traditionally have huge woodpiles. Southern mills get the cordwood today, process it at once, have no woodpiles.

The consequence is that as incoming pulpwood shipments dwindle, a northern mill can usually get by for months. But a southern mill that receives no wood today may have to shut down its paper machines tomorrow. For both of these reasons, southern mills are even harder hit than northern.

• **No Mystery**—On what ails the paper situation, the committee's preliminary report does not equivocate:

"There is no shortage of standing timber and no shortage in pulp and paper manufacturing facilities. In fact, if the mills had more raw material supply they could, with little or no additional manpower, produce more prod-

TRY, TRY AGAIN

Whether the Brewster Aeronautical plants will remain at the bottom of the league of big producers now rests solely with Henry J. Kaiser (right). This week, as president, he took over active management of the corporation, supplanting Frederick Riebel (left), who will return to the Navy Bureau of Aeronautics as general production consultant. The shift was the result of hearings before a House committee where Brewster's low output figures were aired. And now, refusing to run the aircraft plants by proxy, Kaiser is out to erase this one blot on his production record.

SALT CENTER

Philadelphia's fanciest showplace will soon become one of the world's most palatial research laboratories. It's the $2,500,000 home of the late Edward T. Stotesbury, Quaker City financier, which Pennsylvania Salt Mfg. Co. has purchased for scientific work. Renovation of the 147 rooms is being pushed to house 75 chemists and their assistants by Jan. 1. They will have real privacy; a 275-acre estate surrounds the mansion.

ucts. . . . The shortage exists in cut pulpwood because of insufficient labor supplies, both at present and increasingly so in prospect. If no action is taken to increase the supply of woods labor now, the opportunity to improve the income side of the budget is gone for months to come."

• **Lumber Needs Men Too**—Because woods labor is also required for other types of wood cutting, pulpwood cutters may be diverted to other woods jobs. The Timber Controller of Canada says that lumber production needs as many additional men as does pulpwood. And Canada requires, as even more immediately essential, the labor to cut fuel wood (BW—Oct.16'43,p48).

Highlights of the report:

(1) Combined pulp and paper requirements of the three nations for 1944, in terms of pulpwood equivalents, is 24,228,000 cords. Combined pulpwood supply is 17,599,000 cords. Thus the prospective deficit, equal to 27% of requirements, is 6,629,000 cords.

(2) Newsprint needs of the U. S. for 1944, under limitation orders in effect in October, are figured at 4,262,000 cords. Hence, if all newsprint could be eliminated, the remaining deficit for requirements of other types of paper would be 2,367,000 cords.

(3) If the deficit were to be met in full by uniform curtailment of all printing and wrapping papers, including newsprint, U. S. requirements would have to be cut 52%.

• **Deficiencies Estimates**—Shortages for 1944 on the probable supplies available in 1944 are now shown in the committee's preliminary report, doubtless because these are subject to adjustment by juggling production quotas among various types. Shortages for 1944 are, however, estimated on the almost impossible assumption that supply will be equivalent to 1943. Deficiencies for 1944 shown on this tabulation of the report in thousands of tons are:

	Estimated Supply	*Deficiency*
Container board	4,098	502
Book	1,492	358
Fine	927	253
Groundwood printing	522	114
Building boards	889	111
Folding boxboard	1,909	91
Tube stock	267	56
Set-up boxboard	854	26
Special industrial	164	22
Sanitary	808	18
Absorbent	77	11
Building	792	0
Newsprint	3,762	* 142
Wrapping	2,112	* 2
Tissue	141	* 1
All other boards	245	35

* *Surplus.*

• **Signs of Activity**—Since the committee's report gained circulation, WPB has realigned its divisions handling lumber, wood pulp, paper, and paper products.

Newspaper publishers in session with WPB's printing and publishing division were urged to take a 16% curtailment, which is as great as all three previous cuts combined; they decided instead in favor of reducing their inventories by 40,000 tons a month to make up the November and December deficiency.

• **Time Is Precious**—Meanwhile, papermakers and users wait with fingers crossed. Unless Washington officials get together immediately on a program that puts more men in the woods, the precious days of frozen-over swamps in northern forests will dribble away, and with them all hope of boosting pulpwood production for the duration.

Seagram Expan

Acquisition of Fran further intrenches sales le in first place; more merger inevitable as stocks dwind

Biggest whisky deal since repe closed last week by Distillers Seagrams, Ltd. in acquiring Fra Distilleries, Inc., for $42,000,000

• **Sales Leader**—Seagram has long the sales leader of the industry, g in excess of $250,000,000 duri past year with profits before ta about $40,000,000. Frankfort, of the independent companies an largest of all—Schenley, Na Hiram Walker, and Frankfort fol Seagram saleswise in that orde been grossing in the neighborho $100,000,000 annually.

The combined gross will mak gram the Big One of the North can whisky industry—Seagram, Hiram Walker, being a Canadia poration. To achieve comparable National and Hiram Walker, fo ample, would have to combin Schenley would have to buy up s of the few remaining independen

• **Pacing the Field**—With the ad of Frankfort's three distilleries—o Baltimore and two in Louisville gram's productive capacity, an i tant postwar factor, will exceed a its competitors by a wide margin.

Seagram previously had ten pla the United States with combine pacity exceeding Schenley's, as w several in Canada. Schenley and tional each have 13 plants. H Walker has three.

• **Big Stock Acquired**—In wi stocks, Seagram has heretofore bee precarious position. With the l sales in the industry, Seagram poor third in stocks.

Together with the 1,000,000 which Seagram holds in the U States, plus unknown stocks in Ca Frankfort's 400,000 bbl. will put gram ahead of National, which about 1,250,000 bbl., and strong s to Schenley, with its tremendous i tory in excess of 1,750,000 bbl. H Walker's American inventory pro does not exceed 900,000 bbl.

• **Plus Hidden Inventories**—To the four companies, including Sea Frankfort as one, now own ou about 5,300,000 bbl. out of American stocks of 8,000,000 bb addition, the big companies pro all have hidden inventories, custom held in the names of smaller oper

Total annual sales are now ru in excess of 3,000,000 bbl.—the reason for the industry's rigorous self-imposed rationing system and

Softening Up

THE INVASION FRONTS

Norden Bombsights

Burroughs is manufacturing and delivering the famous Norden bombsight—one of the most delicate and precise mechanisms ever devised.

Precision-built accounting and figuring machines are also being produced by Burroughs for the Army, Navy, U. S. Government and other vital war activities.

The softening up process is carried out in devastating patterns of bomb bursts, planted with precision by deadly aircraft. They undertake destruction of enemy capacity to wage war, by striking ceaselessly—allowing no respite, no opportunity to rebuild, no future but futility and defeat.

Incessant, heavy bombing requires countless preliminary hours of planning and figuring to keep at flood tide the flow of fuel, supplies, spare parts, bombs, bullets, clothing and food on which success depends.

To cope with this tremendous volume of figuring, Burroughs machines by the thousand are producing fast results that expedite the work, accurate results that meet the rigid requirements of war.

BURROUGHS ADDING MACHINE COMPANY • DETROIT

Burroughs

FIGURING, ACCOUNTING AND STATISTICAL MACHINES • NATIONWIDE MAINTENANCE SERVICE • BUSINESS MACHINE SUPPLIES

current drive of the big companies to acquire what stocks still remain in private hands.

• **Gambling on the War**—All whisky industry planning today is based on the stock-sales ratio, plus the distiller's judgment as to the duration of the war. Industry stocks will last perhaps 2½ years at present rates of consumption, although losses in storage may shorten the supply. Most distillers are guessing, for safety's sake, that the war will last longer, and are accordingly rationing sales to distributors on four-, five-, and even eight-year bases.

The market is virtually unlimited, and the industry as a whole could easily sell twice as much whisky—and go out of business in a year. Similarly any one distiller could easily sell twice, three times, and perhaps ten times his present volume, if he had the stocks—and the bottles—or if he cared to gamble on early peace—or a whisky furlough from 100% conversion to industrial alcohol for war.

• **Profit Temptation**—With all the loss leaders of the industry retired for the duration, and everything being bottled under top labels at top prices, the profit possibilities are tremendous. The industry and every distillery in it could liquidate its inventories at all-time high prices.

Shortage of bottles—distillers are getting only 65% of their 1942 requirements plus what they can recover and re-use under strict Internal Revenue regulations—and capital gains taxes are deterrents, but the temptations and possibilities for ingenious distillers are great.

• **Three-Year Expectancy**—In Seagram's case, sales are eating into stocks at a rate of better than 500,000 bbl. a year, even with strict rationing of the Crown brands. Seagram could have held on for no more than two years without the Frankfort deal, but can now look forward to three years of business. Seagram may, however, choose to relax its rationing program and give wholesalers and the monopoly states more whisky.

If Seagram releases a larger volume on the strength of Frankfort stocks, the other big companies might be forced to do likewise, and the consequences might be the bitterest fight the industry has ever seen—and some big casualties. One alternative is some sort of agreement among the big companies, to which the Dept. of Justice, its interest already keen as a result of the quickstep merger movements of the past year (BW—Apr.24'43,p32), would be likely to take exception.

• **Mergers Inevitable**—With stocks dwindling and income and idle funds rising, more mergers are inevitable. [illegible] whisky industry has known for [illegible] time that the Century Distillers [illegible] highly profitable subsidiary of [illegible] Mills, and one of the biggest [illegible] handful of remaining independents [illegible] been sold to the highest bidder, [illegible] ably National, although Schenley, [illegible] gram, Walker, and American had [illegible] bidding for it.

In addition, the sharp rises of [illegible] can's stock during the last few [illegible] have supported rumors that Seagram [illegible] also dickering for American (BW—[illegible] 23'43,p112)—a deal that would be [illegible] most as big as that for Frankfort. [illegible] over, practically every other company [illegible] the whisky business is finding [illegible] tempted.

Patton Mends His Political Fences

While other farm organization leaders battle the food subsidy program tooth and nail, James G. Patton is on the opposite side of the fence—playing the Administration angle for all it's worth to build up his Farmers' Union.

Last week, leaders of the nation's most powerful farm organizations (see cover), Edward A. O'Neal of the Farm Bureau, Ezra T. Benson, executive secretary of the Farm Co-op Council, and Albert Goss, National Grange master, voiced their opposition to subsidies at the White House. Patton, dubbing them the "unholy coalition," backs the subsidy program to benefit his union members—and have a talking point to raid his enemies' camps.

Smallest but most militant of the big farm groups, Patton's outfit has drawn membership largely from small owners and tenant farmers, hence his fight for restoration of Farm Security Administration appropriations to keep alive the aid program for tenants and sharecroppers. Meanwhile, Patton has his eye on bigger game—the membership of the Grange and Farm Bureau. That's the basis of his big organizing drive, and he hopes to enlist Administration support in exchange for backing its food subsidy program.

James G. Patton

Key of the deal is Aubrey Williams, former Youth Administration and WPB official, hired by Patton to head the drive. A close friend of Harry Hopkins, Williams is expected to provide entree to the White House that none of the other farm organizations can hope to equal.

No Rubber Stam[illegible]

Comptroller General gi[illegible] notice that his GAO won't b[illegible] to Army in controversy o[illegible] contract termination.

Until a few weeks ago, the Co[illegible] troller General of the United St[illegible] was a somewhat blurred figure in [illegible] background of the Washington pict[illegible] Occupying an essentially Throttle[illegible] tomish position, like the Treasurer [illegible] the U. S. and pre-Wallace vice-pr[illegible] dents, he was a title rather than a per[illegible] to all except the employees in [illegible] sprawling red-brick eyesore which ho[illegible] his General Accounting Office.

• **Not So Warren**—Then Comptro[illegible] General Lindsay C. Warren emer[illegible] from the vaulted depths of his of[illegible] and marched up Capitol Hill to ch[illegible] lenge the Army and Navy on the v[illegible] question of termination of governm[illegible] contracts. It was evident immediat[illegible] that he is very much a person—a so[illegible] heavy-set person, with a rumbling vo[illegible] and a habit of throwing one leg o[illegible] the arm of his chair.

It turned out, moreover, that he[illegible] a person particularly well fitted to l[illegible] out for himself in political rough-a[illegible] tumble. Years of experience—in [illegible] North Carolina legislature, on t[illegible] state's Democratic committee, and [illegible] Congress—had taught him that.

• **Question of Authority**—Testifyi[illegible] before the House Military Affairs Co[illegible] mittee, Warren wasted no time bow[illegible] and scraping. The GAO staff, head[illegible] by astute Frank L. Yates, Assista[illegible] Comptroller General, had equipped h[illegible] lavishly with facts and figures. He us[illegible] all of them (BW—Oct.23'43,p14).

In general, Warren attacked t[illegible] whole idea of letting the Army, Na[illegible] and other procurement agencies hand[illegible] settlements on terminated contrac[illegible] The General Accounting Office, [illegible] pointed out, was set up by Congress

How a home-front army suffers heavy casualties

TO EMPLOYERS:

BECAUSE far more accidental deaths and injuries occur in homes than on the job, Home Safety is a major factor in reducing absenteeism in business and industry.

This message on Home Safety may prove useful to your employees. On request, Metropolitan will gladly send you enlarged copies for posting on plant bulletin boards.

Address: Metropolitan Life Insurance Company, 1 Madison Ave., New York 10, N. Y.

AST YEAR, twice as many Americans lost their lives in accidents hin their own homes as were reted killed in battle in the first 18 nths of this war!

In the same year, *well over three rters of a million* workers were temrarily disabled by accidents in ir homes.

The working time lost by this huge Home-Front army was enough to operate more than 50 war plants, each employing 1000 people, for an entire year.

Most home accidents need not ppen. Carelessness is the chief reaon why friendly, familiar surroundgs are so often the scenes of accints which cause pain, grief, and ancial loss.

The practice of the three basic safety nciples outlined below would elimite most home accidents.

move danger points. Keep stairs, cluding railings, in repair and wellhted . . . *a greater number of serious cidents occur on stairs than in any om.*

Have electrical equipment, irons, heaters, toasters, etc., inspected and repaired. Replace frayed cords and loose plugs.

Watch out for leaks in gas appliances and pipes. Clean chimney flues and heating equipment regularly.

Practice good housekeeping. Stairs and landings should be kept free of brooms, toys, boxes, and other objects which might cause falls.

Scatter rugs should be securely anchored. Don't use wax too liberally on floors and take care that it is rubbed in thoroughly.

Tie back kitchen curtains so they won't catch fire. Knives and sharp instruments should be kept in a safe place when not in use . . . handles of pots and pans on the stove should be turned in to avoid tipping.

Keep furniture and other objects out of the way so you won't trip or stumble over them.

Develop careful habits. Use a stepladder, or a straight, strong chair—not the nearest rocker or box—when reaching to high places.

Careful householders will disconnect electric appliances like irons and curlers before leaving the room. They will never leave a hearth fire unguarded, whether gas, wood, or coal.

Close cupboard doors and bureau drawers promptly to avoid collision. Get rid of broken glass or other sharp refuse as quickly as possible.

Hands should be dry when touching any electrical switch or apparatus.

Make a tour of your home this very day.

Check for yourself, and urge your family to practice these three basic safety principles. Don't give an accident a chance to happen!

COPYRIGHT 1943—METROPOLITAN LIFE INSURANCE CO.

75th ANNIVERSARY—1868-1943

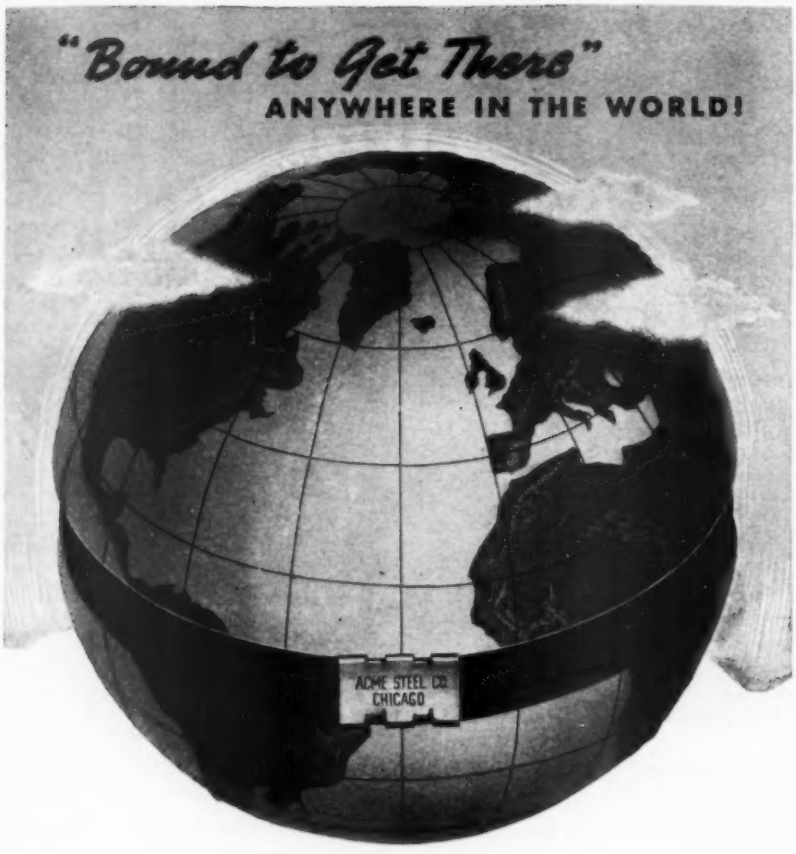
Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

Frederick H. Ecker,
CHAIRMAN OF THE BOARD

Leroy A. Lincoln,
PRESIDENT

1 MADISON AVENUE, NEW YORK 10, N. Y.



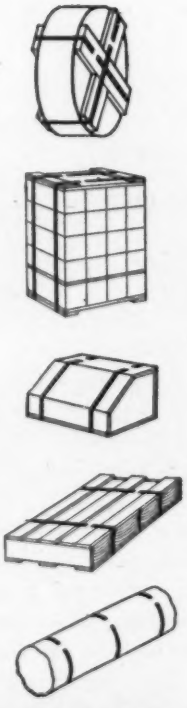
. . . WITH *Acme Steelstrap*

Across the broad reaches of the Pacific—past the submarine "wolf packs" of the Atlantic . . . packages of supplies dropped from moving freighters, floated ashore to waiting troops or descending from the skies with the paratroops—packages of vital war supplies — must take a terrific beating and arrive intact.

Make no mistake—poor packs help the Axis—properly protected with Acme Steelstrap—supplies are "Bound To Get There"—and get there safer.

So Acme Steelstrap girdles the globe—protecting the original investment in time and effort. It represents the lowest cost answer to safe delivery at destination.

During this period we're all learning valuable lessons in packing and shipping problems for post-war use. We offer a complete service—study your problems and make recommendations that represent an investment in safe delivery, save expense, speed handling, conserve container material.



ACME STEEL CO. CHICAGO

ACME STEEL COMPANY

2828 ARCHER AVENUE, CHICAGO, ILLINOIS

audit all expenses and handle all c against the government. As Compt General, he argued, he is responsibl preventing fraud and carelessness i mination settlements. Hence final thority should lie with his GAO r than with the Army and Navy.

• **Criticisms of Army**—Specifically, W ren insisted that: (1) The Army' thority to handle termination s ments under the various war power is questionable; (2) in any case, authority, if any, will stop at the of the war; (3) Army contracting of are not fitted by training or sympa to handle terminations; and (4) ex ence with cost-plus-fixed-fee cont shows that the Army has been app ing expenses that GAO refuses to cept.

Such was the logic of Warren's a ment. But there was more than i in the testimony he poured into House committee's record. At least of the things that injected steam the realization that unless he did so thing, the biggest acounting job in tory—the termination and settlem of an estimated $75,000,000,000 w of contracts—would bypass his offic most entirely.

• **Patterson Answers**—When the Co troller General first mixed into question of termination settlements, services were inclined to be magn mous. "The man's only doing his j they said.

By the time Warren had finished testimony, the services were incli to think he had done his job somew too earnestly. Under Secretary of W Robert Patterson, himself no novic a slugging match, hotfooted it back the Capitol to answer the charges carelessness. The GAO, Patte

Asserting himself in no uncert terms, Comptroller General Lind Warren demands his lawful voice auditing the terms of war contr terminations.

ed out, has disallowed less than
n every $1,000 of cost-plus expen-
s approved by the Army.

reat and Promise—To Warren, the
r Secretary's figures are not evi-
but a challenge. GAO, he says,
make a lot more disallowances in
uture and, what's more, will make
stick.

AW Talks Back

Petroleum Administration ies responsibility for unequal oline distribution, points to ransportation record.

every motorist in the United States
n't have gasoline parity with every
r motorist, the Office of Defense
sportation, OPA, and the ration
ds, are to blame. Such, in effect,
what the Petroleum Administra-
for War told Congress last week.

ll Amount Certified—Deputy Ad-
istrator Ralph K. Davies told a
se subcommittee that PAW had
lled its obligation to equalize sup-
by certifying automobile gasoline
various districts of the country up
e full amounts requested by ODT
arity of distribution: 350,000 bar-
a day for the East Coast; 395,000
he Middle West; 127,000 for the
hwest; 30,000 for the Rocky Moun-
tains; and 120,000 for the Pacific Coast.

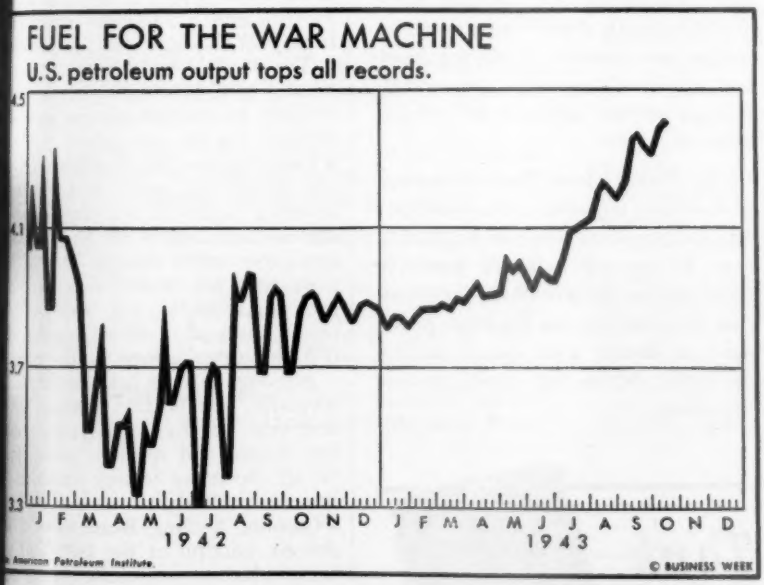
In all districts, A coupons are good for three gallons each. B and C coupons are two gallons each, except in Rocky Mountain and Pacific Coast states, where their value is three.

• **Transport Revolutionized**—Although some oil men, particularly refiners in the Middle West who have been complaining that they have 200,000 barrels a day of unused refining capacity, would not agree that PAW has achieved parity of supply, Davies' evidence of a wartime revolution in oil transportation methods was unchallenged.

Davies used a few comparisons to describe how railroads, pipelines, and barges have moved into big oil tonnages since Pearl Harbor: Rail movement of oil has increased from 5,000 bbl. a day to a recent peak of 1,000,000; pipelines from 42,000 bbl. a day to 406,000; barge lines from 64,000 bbl. a day (in April 1942) to 168,000.

Combining these figures, Davies said total inland and overland movement of oil has already reached 1,400,000 bbl. a day, and by next spring will approach a peak of 1,700,000. Pipeline movement of oil to the Atlantic seaboard, by that time, is expected to reach 725,000 bbl. a day.

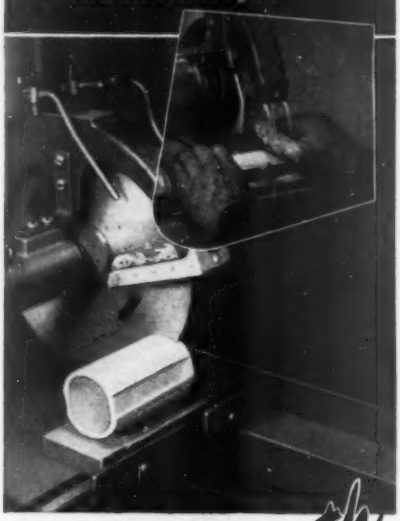
• **Pipeline Record**—Previously, PAW had listed its pipeline building record: new construction of 7,257 miles authorized, including 2,704 miles of


FUEL FOR THE WAR MACHINE
U.S. petroleum output tops all records.
4.5
4.1
3.7
3.3
J F M A M J J A S O N D J F M A M J J A S O N D
1942
1943
American Petroleum Institute.
© BUSINESS WEEK

production, after reaching an all-
e high early in 1942, dropped for
k of transportation. Tankers were
ng sunk, and inland shipments to
suming centers were utterly inade-
ate. The railroads have done an he-
c job, new pipelines now are flow-
, and tankers are back on the sea-

lanes. In short, even though output is on new high ground, production has succeeded transportation as the bottleneck. Oil fields now are at "maximum efficient capacity," according to PAW. (The Southwest might add 200,000 bbl. a day, but it couldn't be moved at present.)

Smooth as polished glass to the touch... yet



cuts like sharks teeth

IT'S UNBELIEVABLE—these fast cutting edges with needle-sharp teeth—harmless to a finger, yet readily cut through any hard, brittle non-metallic material!

DI-MET diamond abrasive wheels are a comparatively new tool available to industry today. They cut, not by the usual projecting teeth of common saws and cutters, but by means of minute diamond particles firmly embedded in the wheel periphery. DI-MET wheels are safe—will not crack or shatter—can be used on any machine having adequate spindle speeds and suitable methods of feeding the work.

Applications of DI-MET wheels begin where exceptional hardness of workpieces causes other cutters to fail. Industry today is finding hundreds of new uses for DI-MET diamond wheels in milling, grooving, slicing, facing and cutting-off such materials as glass, quartz, porcelain, ceramics, steatite asbestos-cement, marble, tile, glazed face brick, vitreous compositions, etc.

If your job requires economical cutting of non-metallic* materials—get in touch with DI-MET. Suitable types and sizes of wheels are made for a wide range of applications.

*DI-MET diamond abrasive wheels are available in copper, steel and resinoid bonds for use on non-metallic materials. Resinoid bonded wheels, however, are extremely efficient for slicing, grooving and edge sharpening metallic carbides as well as non-metallic substances.

FELKER DI-MET

Felker
MANUFACTURING COMPANY
1112 Border Street, Torrance, California
Manufacturers of
DIAMOND ABRASIVE WHEELS

They keep their ears in a seamless barrel

Housings for sound detection devices used in protected waters, are made by the famous Hackney seamless construction method. These seamless housings are but one of many types of Pressed Steel Tank Company products now serving in the war effort.

Today, these Hackney seamless housings are part of the equipment used in detecting the presence of lurking submarines and other enemy marauders. In peacetime, the Pressed Steel Tank Company applies its seamless construction process in the manufacture of Hackney Seamless Barrels. Their principal uses are the protection, transportation and storage of chemicals, food, paint and other high value products.

Pressed Steel Tank construction not only meets the wartime requirement of ruggedness, but also assures a sturdy, durable container which will stand up under the toughest kind of peacetime handling and transportation, trip after trip.

The Hackney Seamless Barrel can be cleaned easily and quickly. The curvature of the chime is smooth. There are no crevices, seams or welded joints in the interior of the barrel.

The bilged shape of this Hackney barrel facilitates handling and gives added strength. And a Toggle-tite, or single bolt closure, holds the head air-tight to the top edge, preventing leakage or the entrance of foreign matter.

The Pressed Steel Tank Company is now fully engaged in the manufacture of products for war-important uses. If you are building products important to the war effort, it may be that you, too, can use Hackney products or design and manufacturing facilities. Write for complete information.

Pressed Steel Tank Company

MANUFACTURERS OF HACKNEY PRODUCTS

General Offices and Factory · 1493 SOUTH 66th ST.

Milwaukee 14, Wisconsin

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

secondhand pipe; reversal of oil through 3,303 miles of existing and conversion of 253 miles of gas lines to oil, out of 328 miles jected.

Not listed in the record of accomplishments was the virtual relay that portion of the Big Inch be Phoenixville, Pa., and Bayway, N a 75-mile stretch, originally laid defective pipe, on which service been suspended for seven weeks.

• **Some Big New Lines**—Among major completed pipelines are Big from East Texas to New York, a mile extension of the Plantation between Greensboro, N. C., and mond, the trans-Florida line bet Carrabelle and Jacksonville.

Only unfinished government-fina pipelines are the 20-inch products (Little Big Inch) from the Ho Beaumont area to Linden, N. J., the Southwest emergency pipeline tween Corpus Christi and Houst

• **Existing Lines Combined**—Indu financed projects completed in the two years have included combinat of existing lines to feed and sup ment Big Inch in movement of o the Atlantic seaboard. This invo reversal of lines; construction of miles of loop lines, connections, additional pumping stations; and tension of the Bayou line west from Baton Rouge to Texas refine

Industry-financed projects still u construction include two outlets f the Permian Basin of West Texas-N Mexico, and a 250-mile products from East Chicago, Ind., to Toled

The pipeline building program is timated at $256,000,000, divided $1 000,000 for government projects. $ 000,000 for the oil industry.

• **Counting on the Caribbean**—Da said PAW has most of its hopes boosting crude oil supplies from eign sources pinned to the Caribb area. No other foreign source is close to home, and it's figured to good for 1,000,000 bbl. a day of cr oil by the end of 1944, against 6 000 bbl. a day current production.

Although Davies acknowledged t domestic production would decl next year, he visualized meeting ess tial civilian and military requireme "if all the many factors involved coincide perfectly."

• **Gasoline Ceiling Reached**—Oil m also are mindful of the fact that ga line production has reached what see to be a practical ceiling of 1,800,0 bbl. a day from which military mands take one-third. And the m tary demand has been following steady trend upward.

A sharp reduction in quality of ci lian gasoline is inevitable, most oil m think. There is a real shortage of tet ethyl lead, and premium gasoline m disappear from filling stations. Regu

Pennsylvania and Plastics

Are your plants in

the Right Place

for Plastics?

What will plastics do *to* your business or . . . *for* it?

Companies located in Pennsylvania are ideally situated for this great industry. Here are some reasons:

COAL, OIL—Many of the plastics materials come from coal, oil, natural gas, limestone. Pennsylvania has all these in quantity.

COKE OVENS, OIL REFINERIES—Pennsylvania leads in coke production and is one of the leaders in oil refining. These processes are sources of phenol, acetylene, acetic acid, carbon dioxide, methanol, formaldehyde, ethylene and other materials important to plastics.

TEXTILES AND PAPERS—These materials are extensively used in laminating plastics. Pennsylvania has great textile and paper mills.

METALS—The alloy steels and the light metals are expected to be used to an increasing degree in conjunction with plastics. Pennsylvania leads in the production of steel and has an important place in the aluminum industry.

MARKETS—Pennsylvania companies are in the best possible position to reach the rich eastern markets.

Maybe you need a plant in Pennsylvania.

Want a fine, new summary of the plastics industry? Pennsylvania's State Planning Board has just published a booklet on it. Write for free copy to the Department of Commerce, Harrisburg, Pa.

Department of Commerce, Harrisburg, Pa.

Pennsylvania

EDWARD MARTIN
Governor

FLOYD CHALFANT
Secretary of Commerce

Pennsylvania—a fine place to live, a fine place to be in business

So easy to read

THE 1943 American thermometers embody several radical improvements all of which are aimed at "easy reading, enduring accuracy."

A special glass cover cuts down reflections, reduces glare to a minimum yet allows all the light rays to penetrate freely. It is so closely fitted that dust and dirt cannot enter to cloud the scale.

The wide-angle construction admits maximum light so that the broad stripe of red-reading mercury stands out boldly—clearly marking the temperature on the scale with it plain, legible numbers and lines.

The mercury we use has been acid-cleaned and triple distilled to eliminate any possibility of foreign matter which might make the column stick to the tube, split and record inaccurately.

Though the case is exceptionally strong and fusion-welded, it is light in weight and has a corrosion-resistant finish that defies humid atmosphere.

For any industrial or maritime use there is an American thermometer exactly suitable for the purpose and conditions.

American Glass, Dial and Recording thermometers are stocked and sold by leading Distributors everywhere. Write to them or to us for full information.

AMERICAN
Industrial Instruments
MANNING, MAXWELL & MOORE, INC.
BRIDGEPORT, CONNECTICUT
Makers of 'American' Industrial Instruments, Hancock Valves, Ashcroft Gauges, Consolidated Safety and Relief Valves. Builders of 'Shaw-Box' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties.

gasoline may be degraded from its present octane rating of 72 to 68 or even 65. Contrary to popular belief, PAW officials said, the quality of regular brand name gasoline has not yet been reduced.

• **Civilian Yield Off 33⅓%**—Significant for civilian supply and quality were Davies' figures comparing average yields from a barrel of crude oil two years ago and now. In 1941, each barrel of crude yielded only ½ gal. of aviation gasoline; today the yield of aviation gasoline, explosives, and other war chemicals is 3½ gal. a bbl. In 1941, the yield of automobile gasoline per bbl. of crude was 18 gal.; now it's 12 gal., a 33⅓% reduction.

And Now Soy Oil

Diversification program of General Mills leads to soybean processing for oil and meal, and other vegetable oils may follow.

Marking one of the biggest steps in its five-year-old intensive diversification program, General Mills, Inc., world's largest flour miller, now has entered the vegetable oil processing field.

• **To Process Soybeans**—Already producing items ranging from family flour to dehydrated vegetable-noodle soup, from Amici prisms to distilled vitamin A esters, G.M.I. now will process soybeans in a formerly idle 258-acre sugar beet refinery at Belmond, Iowa, purchased from American Crystal Sugar Co.

Products will be oil and meal—400 tank cars of oil, 55,000 tons of meal annually—utilizing 2,500,000 bu. of beans bought from farmers of the agricultural area surrounding the [illegible]. Oil will be sold on the open market [illegible] paint and linoleum manufacturers. Meal will be used chiefly in General Mills' own line of commercial [illegible] hog, poultry, dog, and other feeds.

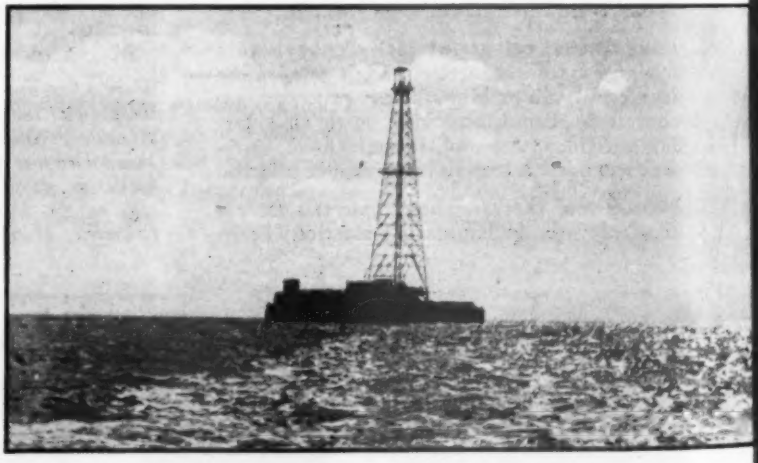
• **Headed by Oil Processor**—Emphasizing that this is but the first step in new expansion program is the creation of a vegetable oil and protein division headed by Whitney H. Eastman, [illegible] time vice-president of Archer-Daniels-Midland Co., big vegetable oil (probably linseed) processor. It is understood, but not confirmed officially, that other vegetable oils—linseed, cottonseed—won't be neglected in the company's new oil and protein research program.

This latest move adds a new product to General Mills' growing line ("principal products" are listed in the 1942-43 annual report) and establishes a source of supply for materials needed in its established line of commercial feeds.

• **Stuck to Flour Milling**—In the early years, following its organization in 1928, General Mills devoted its attention principally to the expansion of its flour milling business by bringing [illegible] and more established mills, small and large, into the G.M.I. fold. (Wheaties, its biggest selling cereal, also was given a big push in this period.)

Horizontal expansion began in earnest in 1938 when Kix, a dry cereal made from corn, was added to its line of package foods. The pellet-shaped breakfast food soon proved to be a flop, however, for after a spectacular sales start it went into a tailspin despite frenzied merchandising efforts.

Reintroduced this year in [illegible]



OIL AT SEA?

From a tiny man-made island of logs and rock, oil men from the United States are probing for oil beneath the floor of Canada's Hillsboro Bay. Texas and Louisiana drillers expect to [illegible] one of the Dominion's deepest [illegible] in search of "black gold." The unique, 9,000-sq.ft. rig platform [illegible] off the coast of Prince Edward Island in the mouth of the St. Lawrence

While your postwar airliner flies at 14,000 feet

... its AiResearch-pressurized cabin will keep you at sea-level comfort

There'll be a new kind of air travel ready for you when peace comes. Your future airliner, bigger and more luxurious, will fly much higher than prewar planes. And your flight in the upper skies will be faster and smoother.

How will the thin air of the high altitudes affect you? Will it be hard to breathe? Will it be cold? *Not at all!* Even at 14,000 feet, for example, where the air is a third thinner than at sea level . . . and seven times as cold . . . you will be flying in utmost comfort, as cozy and relaxed as in your own living room. Despite the altitude, you'll feel no sign of headache or drowsiness or "ear-popping."

AiResearch engineers have been working since long before the war to make possible such travel comfort in the upper air. Their project, a device that automatically controls airliner cabin pressures, is now nearly ready for commercial use.

The AiResearch-pressurized cabin is, literally, air conditioning of the highest type. Developed out of our years of specialized study of automatic air control, it is one of many AiResearch conveniences we're planning for peacetime homes, offices and farms as well as for tomorrow's travel.

AiResearch
MANUFACTURING COMPANY
LOS ANGELES · PHOENIX
DIVISION OF THE GARRETT CORPORATION

"Where Controlled Air Does The Job" · Automatic Exit Flap Control Systems · Exhaust Heat Exchangers
Engine Oil Cooling Systems · Engine Air Intercooling Systems · Supercharger Aftercooling Systems

That good handling methods place the work

burden on the equipment—not on man and womanpower

—is exemplified by **TOWMOTOR**

THE 24-HOUR ONE-(woman)MAN-GANG

TOWMOTOR CORPORATION • 1221 E. 152ND STREET, CLEVELAND 10, OHIO

STRAIGHT-GAS POWERED INDUSTRIAL TRUCKS EXCLUSIVELY—SINCE 1919

flake form, said to improve its ta
now is being prepared for the
merchandising procedure.

• **Joined With Eastman**—Fundam
research, long a favored p
(G.M.I.'s research staff has grown
five men in 1932 to 175 now), p
a big part in the next major expan
Molecular distillation processes
which its scientists were working
found to parallel and complement
ilar research done by Eastman K
Co. So the two firms pooled
knowledge and plans in a jointly o
subsidiary, Distillation Products,
at Rochester, N. Y.

G.M.I.'s special commodities
sion acts as the subsidiary's sales a
for products that are now large
the vitamin field. Pumps for cre
vacuums, gages to read extremely
pressures, and similar specialized e
ment also are sold.

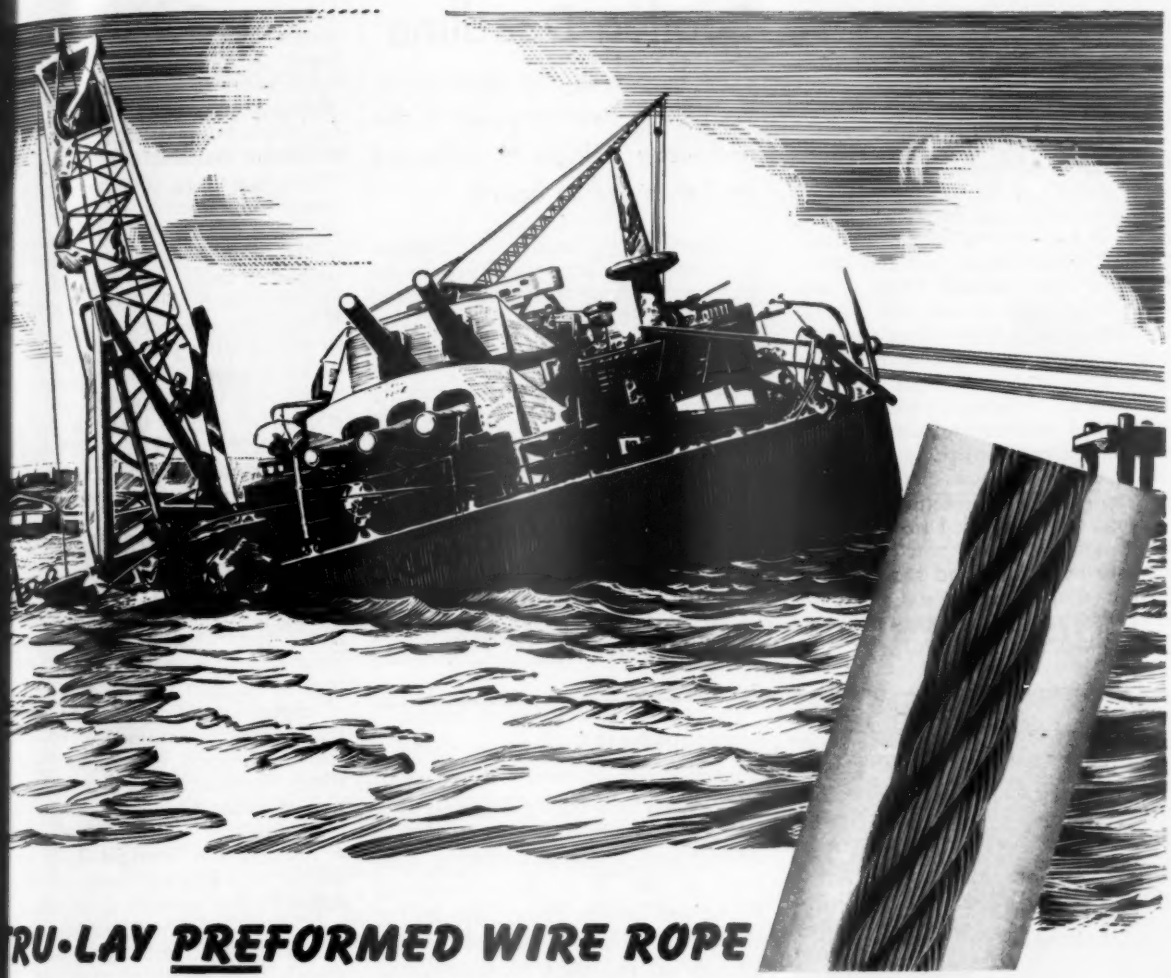
• **Naval Ordnance**—Out of G.M
mechanical development departm
set up in 1926 to perfect flour-pac
ing devices, has grown another un
offshoot—its naval ordnance p
turning out $15,000,000 a year in
cision equipment (fire control de
torpedo directors, and other in
ments in the "secret" category).
contract was obtained in 1940, m
to aid defense and provide work
men and machine tools in that de
ment (BW—Jun.14'41,p65).

The project grew so fast tha
February, 1941, when John B. Ha
moved his Northern Pump Co.
huge new plant to turn out Navy
mounts in quantity, G.M.I. bought
recently renovated factory vacated
Hawley. And company officials
keeping an eye on future opportun
in the mechanical field.

• **Dehydration Branch**—Entering
dehydrated food field in 1941 wi
dried soup, G.M.I. helped meet
time needs for dried eggs by obtai
necessary dehydrating machinery
converting part of its food-pac
equipment at Buffalo, N. Y., t
ting up the eggs in moisture-proof
tainers of its own design.

With the blessing of the State De
Donald D. Davis, then G.M.I. p
dent, in 1941 went to Brazil on a
dual project: providing advisory m
agement to Brazilian enterprises,
developing research on Brazilian p
ucts for possible import to the Un
States. This good neighbor prog
still is functioning; Chairman Jame
Bell has also visited Brazil and
company now has another execu
down there.

• **Oat Flour Plant**—Introduction
1941 of another dry cereal, Cheeri
led directly to purchase a year later
Purity Oats Co., Keokuk, Iowa.
1,000-bbl.-a-day capacity is being
voted chiefly to oat flour used
Cheerioats. Early this year, G.M.I.



TRU-LAY PREFORMED WIRE ROPE HELPS RAISE BATTLEWAGON

THE U. S. S. Oklahoma lay on the bottom of Pearl Harbor with a list of 151 degrees. Salvage, carried out by the Pacific Bridge Company, required 40 miles of Tru-Lay Preformed wire rope, supplied by the American Chain & Cable Company, Inc. After 69 operating hours, the Oklahoma was lifted within 10½ degrees of its natural position.

This spectacular job was aided by Tru-Lay Preformed wire rope made by our American Cable Division. Other equally important tasks have been implemented by Lay-Set Preformed made by our Hazard Division.

Wire rope is only one of many products we make for Industry, Agriculture and Transportation, essential in peace, vital in war.

Workers in industry need instructions in the right ways to handle wire rope for their own safety. We recommend the basic suggestions at the left, prepared by the National Safety Council.

National Safety Council Suggestions For Handling Wire Rope

1. Stretch rope in use before giving it full load—stay within rated capacity.
2. Use sheaves of proper size, properly aligned.
3. Avoid crosswinding rope on drums and sudden starts or stops.
4. Avoid dragging rope on ground or exposing to heat, moisture or acid fumes.
5. Keep rope properly lubricated; it prolongs its life.
6. Use the best of clips or fittings, and attach them properly.
7. Never put strain on a kinked rope.

•

The American Chain & Cable Company heartily cooperates with the National Safety Council in its nation-wide campaign to "Save Manpower for Warpower"—now being conducted at the request of President Roosevelt.

In Business for Your Safety

AMERICAN CHAIN & CABLE COMPANY, Inc.

BRIDGEPORT, CONNECTICUT In Canada—Dominion Chain Company, Ltd. • In England—The Parsons Chain Company, Ltd., and British Wire Products, Ltd.

Aircraft Controls, American Chain, American Cable Wire Rope, Campbell Cutting Machines, Ford Chain Blocks, Hazard Wire Rope, Manley Garage Equipment, Owen Springs, Page Fence and Welding Wire, Reading Castings, Reading-Pratt & Cody Valves, Wright Hoists and Cranes

panded its Keokuk operations by purchase of a large building there, to which has been moved manufacturing units for vitamin D, the enrichment ingredients for flour, dried soup, and flour byproducts.

Still an industrial "baby" in the General Mills family, this last item is the subject of intense research looking toward increased utilization of low-value byproducts of flour milling—starches, gluten, bran, and the like.

• **How Prisms Arrived**—Most curious of its expansions is one that got the corporation into the manufacture of Amici prisms and precision optical equipment used in military fire control devices. Walter Dyoski, an employee and amateur telescope maker, submitted a prism to the government, got an order for ten more, and his draft notice at the same time.

Dyoski was persuaded to stay at his optical job, the Army wired his draft board to defer him, and the company set up a shop where he and his assistants now turn out prisms, reflectors, and the like.

Bootleg Deadline

Illegal mining operations, flourishing twelve years in the anthracite field, are outlawed by Pennsylvania board.

Pennsylvania's bootleg coal "industry," one of the last remnants of the depression, is about to die an unnatural death. Nov. 30 is the date the state's Anthracite Committee has ordered all operations of this type to end.

• **Holding the Cheers**—The anthracite industry, which will welcome relief from the depredations of a social evil the law could not control, won't do any cheering until the illegal mining operations actually cease. The industry is a little weary of waiting for legal action to take effect.

The committee, formed in 1941 to control output and gradually eliminate bootlegging, first ordered its termination by last Mar. 31. Since then, however, ten extensions have been granted on miners' pleas they had no other livelihood. A statement accompanying latest order says there is no need further postponements because work legitimate occupations is plentiful.

• **Officials Helpless**—Bootlegging st twelve years ago. Thousands of jo miners dug holes on company prop and eked out a living selling what t mined. Public opinion in coal to supported them, and state officials operators confessed themselves helpl It became big business when individ in Philadelphia and other communi within a radius of a few hundred m found they could buy the coal cheap enough to permit them to pay ins ments on new trucks and operating e and yet make a profit by selling sev dollars a ton below the market.

• **Few Are Active**—A survey about time the war started showed 11,0 bootleg miners still operating. This gradually decreased, and E. R. Ha executive secretary of the Pennsylva Retail Coal Dealers Exchange, repo latest estimates show only about 2,5 men so engaged now.

Approximately 4,500,000 tons bootleg coal were mined in 1940. T year it dropped to around 2,000,0 tons, as compared with expected prod tion of around 62,000,000 tons by leg mate mines.

• **Truckers Go Straight**—Loss of t bootleg supply is not expected to aff seriously the amount of anthracite areas where it was widely marketed sin 75 truckers who patronized bootlegg already have indicated they intend stay in business by purchasing their su ply from regular mines.

The Anthracite Committee says th trespassing on lands and stealing of c will be outlawed after Nov. 30 "in t same manner that stealing is outlaw in any community."

• **Hazards Created**—The illegal ope tions created hazards in legitimate min because some bootleggers removed ba rier pillars required by law to be left place in order to control undergrou waters. The destruction of those ba riers also created ventilation problem

SPOT REPAIRS

Close to the fighting area, an Army Ordnance repair shop now makes it unnecessary to ship damaged tires back to the U. S. for restoration. Worn and broken casings are loaded on trailers at active bases (left) for transfer to the shop (below) to be patched and retreaded. The unit, first of its kind set up by the Army, mends all casings for the South Pacific Command. Personnel is composed entirely of men who are skilled repairmen or tire shop operators in civilian life.

SHIP LINE'S SALE DELAYED

In July, the U. S. Maritime Commission announced that it would consid returning the American President Lin in which it has held a majority the voting stock since 1938, to priva hands under acceptable conditions.

Last week the commission reveal that none of the offers detailing su to be paid, plans for the lines ope tion, and routes to be maintained h been found acceptable. It is probab that revised offers will be reviewed b the commission and that further re quest for submission of bids will b made later.

Lieu of Butter

New spread, introduced in adison by university founda-n, is not intended as substitute butter, but it may help.

Madison (Wis.) milkmen are offering stomers a new product, Dyne, which obably will be regarded as a substitute butter, even though its sponsor, the isconsin Alumni Research Founda-n, describes it as a "dairy spread" and ims any similarity between Dyne and tter substitutes purely coincidental.

Resembles Cream Cheese—Dyne is hite; no coloring matter is sold with In texture, flavor, and keeping quali-s, it is closer to cream cheese than to tter. Made from milk, cream, cul-red buttermilk, lactic acid, salt, and voring from cultured buttermilk, its ntent is: 26% butterfat (compared ith butter's 80% or more), 18% milk lids not fat, 1% salt, and 55% mois-re, plus 9,000 units of vitamin A and 200 units of vitamin D per pound.

By adjusting recipes, it can be used r certain kinds of baking. It is not itable for frying because of its low t content and high percentage of lids. So far Dyne is unrationed, but e OPA is expected to give it a value sed on its percentage of butterfat—robably five points. The price is 40¢ a ound, compared with 48¢ (and 16 oints) for butter and about 35¢ (and ur points) for margarine.

To Be Licensed—Dyne was developed y Dr. K. G. Weckel of the University

Development of Dyne—a new butter-like dairy spread—may help consum-ers, but the makers' problem of pack-aging is unsolved. Wartime priorities on paper cartons, and Dyne's creamy texture force its producers to use milk bottles and cheese jars (above).

What's this...

enemy guns or dust spots?

Battle strategy and tactics are often based on reconnaissance photographs. And a little dust in the camera "eye", or on the negative and prints can make harmless areas look like tank concentrations or gun emplacements.

So you'll find Air-Maze filters cleaning the air for film processing wherever unblemished quality is wanted, whether it's fighting front or Hollywood. (Mickey Mouse, for example, keeps you from getting spots before your eyes by having his pictures processed in Air-Maze cleaned air.)

The fact that Air-Maze filters do catch even the fine dusts that can mar photographic results, recommends their use any place clean air will promote health, production efficiency or product quality.

Designing and building air filters to fit new ideas is a job Air-Maze is particularly able to do well. Put your problem up to us for the right answer—quick.

IDEAS on using Air-Maze filters

COMMUNICATIONS—protecting telephone and radio devices from dust.

SPRAY BOOTHS—removing paint, oil, etc., from air.

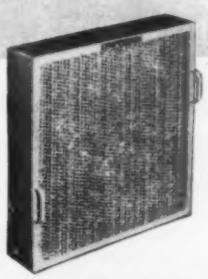
AIRCRAFT—filtering intake air, venting crankcases.

MACHINERY—venting press cylinders, blind pockets, etc.

SHIP GALLEYS—trapping grease and dirt.

ENGINES—cleaning and silencing intake air.

AFTER THE WAR—Your new home, car, plane or production machines will be better with Air-Maze filters.



AIR-MAZE FILTER PANEL
One of over 3,000 types

AIR-MAZE CORPORATION • CLEVELAND, OHIO

AIR-MAZE
SPECIALISTS IN AIR FILTRATION

of Wisconsin, who has assigned the patents to the foundation. The foundation will license reputable and suitably equipped producers, and permit them to use the trademark Dyne. Logical producers are dairies and manufacturers of condensed milk.

For the Madison test campaign, Dyne is being produced at the rate of 1,000 lb. a day by the university dairy, and distributed through three retail dairies.

• **Distribution to Widen**—If the Madison campaign is successful, Dyne will be introduced later in other cities, probably Chicago and St. Louis where clearance has been obtained with state and municipal authorities. Since Dyne probably will be a rationed product, producers will be able to get the ingredients necessary for making it despite controls recently placed on milk and milk products by the War Food Administration.

Long opposed to butter substitutes, the Wisconsin Legislature last summer passed a law expressly permitting the manufacture and sale of such products as Dyne.

Pendulum Is Back

And now horologists are willing to repair 98¢ clocks, even though it may cost $4 and take from two to eight months.

If your watchmaker won't promise a repair in less than three to eight months, he's not stalling, but just so swamped with work it's impossible for him to guarantee a good job in less time.

The 77 executive members of the United Horological Assn.—a guild of skilled craftsmen, not a union or trade association—who held a war conference in Denver recently, reported most U. S. watch-repair shops as two to eight months behind, with only a few able to promise work in less than a month.

• **Gone to War**—And the jam will get worse. Most of the big factories that make watches and repair parts have turned to war work. Imports of parts from Switzerland are subject to war hazards and delays. Some 5,000 skilled watchmakers have gone into governme work—this is a war run by precisi timing, and regulation of watches a other precision instruments has b come a most important ordnance fun tion—some 10,000 are in the arm forces, and more are going every da since watch and clock repair is not rat as an essential industry. The total war is a good one-third of the 40,0 to 50,000 skilled watch and clock r pairmen

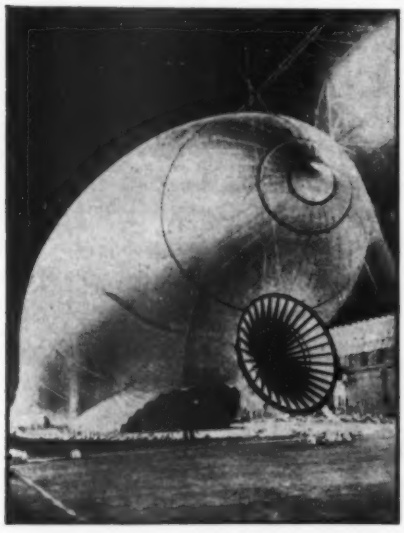
Horologists have more work, too, b cause now they'll do a job they used t scorn—they'll fix your alarm clock. The used to tell you it would cost more tha a new clock, and now even a 98¢ dr store clock may cost $3.50 or $4 to r pair, partly because clock men, who a fewer and lower paid, are overwhelme and the higher-priced watch repairme must do the job; partly because the must fashion many needed parts b hand. But they won't repair the ne ersatz or Victory alarms, according t Orville B. Hagans of Denver, executi secretary of the horologists, becau these clocks are so poorly made a repa would be a waste of time and trouble.

• **Costs Have Risen**—Salaries are run ning away, a trend viewed with mixe feelings by the horologists, who numbe both employers and employees. Nor mally watchmakers are paid from $5 to $70 weekly, with very little overtim because the work is so exacting an precise. Now some shops are offerin up to $100 and $125 for skilled men Overtime is growing, but some employ ers still resist it on the ground that i wears a man out in a few weeks. A canvass of the horologists at Denver re vealed that repair prices have gone u some but, they claimed, not enough t compensate for the higher costs.

• **Legislation Urged**—At the Denve meeting, the horologists considered way to induce more states to adopt a pro fessional standards act as Wisconsin Indiana, Oregon, and Michigan have done In other states, legislators fee watchmakers are not essential, an atti tude the horologists hope to change.

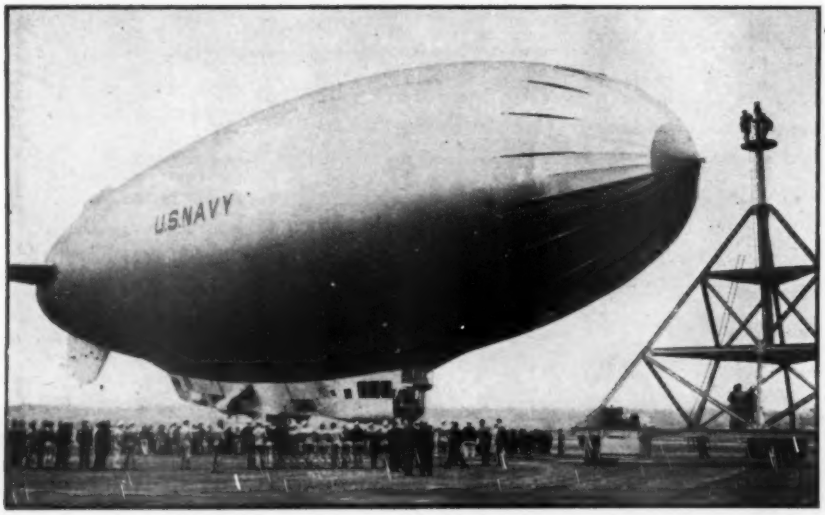
They planned for large-scale rehabili tation after the war, since many veter ans went into the craft after the World War and this war will graduate an im mensely larger proportion of men skilled in precision work. The horologists laid plans for higher educational standards (a thorough apprenticeship calls for about 8,000 hours). Both public and private courses in watchmaking and re pair are rated by the horologists, but they can't make the ratings stick save in the four states where professional stand ards laws are in effect.

• **Blue Eagle Baby**—The association grew out of NRA. There are 15,000 members in 147 chapters. They publish the American Horologist, a monthly. William H Bright, Waltham, Mass., i president.



BIGGEST BLIMP

Carrying Navy and civilian engineers, the world's largest nonrigid airship (below) leaves a movable mooring mast at Akron for initial tests. The big blimp is No. 1 in a new "M" series being built by Goodyear for Navy escort and submarine patrols. Its 650,000-cu.ft. bag holds 50% more helium and allows much greater bomb and gun capacity than those of the "K" series now in action. Unlike dirigibles, blimps require virtually no structural metal in the gas bags. One exception is the huge nose ring (left) which provides the mooring anchor.



...AND HAVE THE MANPOWER, TOOLS AND EXPERIENCE TO HELP LARGE OR SMALL MANUFACTURERS MEET PRODUCTION QUOTAS WITH FAST PRODUCTION OF SHEET METAL PARTS AND PRODUCTS...

The illustration used in this advertisement originally appeared in the August 30, 1941, issue of Business Week . . . over a year after Lyon made war work our major activity. Since that time manufacturers in 30 states have used Lyon's facilities for production-run sheet metal fabrication to secure and expedite war contracts. We want more war work . . . can handle many sheet metal fabricating operations on a basis that will save you available manpower for other vital jobs.

Lyon has approximately 2,000 experienced factory workers . . . specially trained in sheet metal fabrication. Our complete facilities for all sheet metal jobs include: 43 years experience fabricating metal in gauges 8 to 30 . . . one-half million square feet of manufacturing floor space . . . Perforating, blanking, forming, assembling, drawing, annealing and lacquering equipment . . . Conversion experience . . . Fabricating facilities on aluminum and chrome-moly steel in addition to sheet metal . . . Complete toolrooms in all plants.

Write on business letterhead for new FREE BOOK— "Craftsmen in War Production"—describing LYON'S Manpower, Facilities, Finances and Management.

LYON METAL PRODUCTS, INCORPORATED

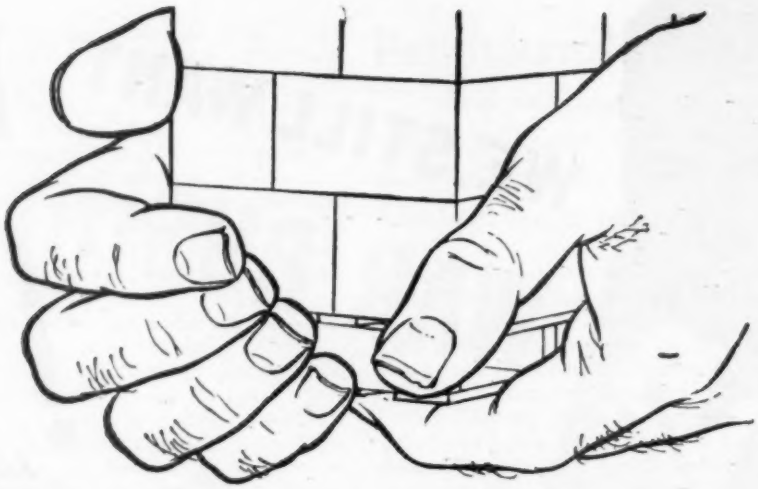
General Offices: 1010 Madison Avenue, Aurora, Illinois

Sales and District Offices Manned by Experienced Engineers in All Principal Cities

YON WAR CONTRACT EXPERI-NCE DATES FROM JULY, 1940 ... COVERS OVER 2400 WAR CONTRACTS FROM 30 STATES

... Use Lyon Facilities for Fast Mass Production of Sheet Metal Products to Save Manpower for Other Vital Work

LYON METAL PRODUCTS INCORPORATED



A Peacetime Lesson for Wartime Warehousing

The tremendous speed in which supplies have had to move thru our army warehouses has proved the value of light lift-trucks.

Trucks of every type have been tested under all conditions. One fact stands out . . that is the all-round efficiency and versatility of Mobilift for lifting, carrying, stacking, loading various types of packaged materials. In fact most of our output has gone to the army's service of supply. A limited number of Mobilifts are now being made available for essential industries. Start now to make postwar plans for improving your own inside transportation system.

MOBILIFT

Moves Materials like a Giant!

VAUGHAN MOTOR COMPANY • 835 S.E. Main St. Portland 14, Oregon
370 West 35th Street, New York 1, N.Y. 2430 South Parkway, Chicago 16, Ill.

Cooperatives Wi

Electric distributing bod in Arkansas get decision in ra dispute; Missouri group bu power company.

Utility corporations in Arkansas h failed in an attempt to curb operati of rural electric cooperatives in urb communities. By a two to one decisi the Arkansas Utility Commission ru that the Arkansas Valley Cooperat Assn. is entitled to the same low whol sale rate for energy it distributes t towns that it pays for energy for distr bution to farmers (BW—Jun.26'43,p49

• **Ban Had Been Sought**—Oklahom Gas & Electric Co., which supplies th energy at wholesale, had asked the com mission to authorize a higher rate f that part of the electricity resold by th co-op association in towns of more tha 250 population.

The private utilities won a partia victory through the commission's ruli that a higher wholesale rate might b charged for energy which the co-op re sells to consumers rated at more tha 30 kva. demand. These are small indus tries for the most part.

• **Similar Cases**—Other Arkansas utilit corporations were interested in the case Arkansas Power & Light had filed a complaint in a similar action and ex pects this precedent to apply.

Extension of rural co-op service t town residents took on added signifi cance due to a recent decision of the Missouri Public Service Commission. This authorized purchase of the Mis souri Electric Power Co. by a group of distributing co-ops. The Rural Elec trification Administration financed the purchase with a loan of $2,504,000 to the Sho-Me Power Co-operative.

• **Scope of Operation**—Customers ac quired by the Missouri co-ops include the residents of about 50 cities and towns, six of which have populations of more than 1,500. Fourteen privately owned utility companies operating in Missouri intervened in opposition to the transaction.

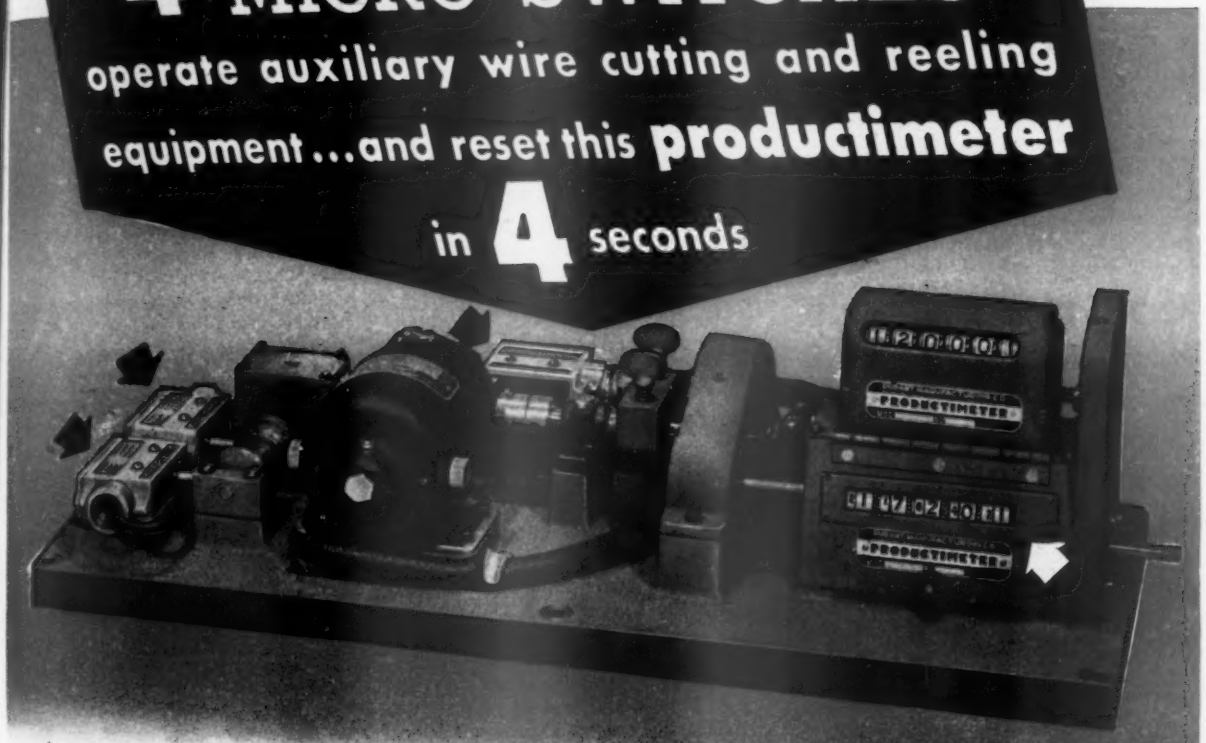
OFFICE MANAGERS SPREAD

Wartime strictures in manpower and machines have stymied the front office as much as the shop, and the National Office Managers Assn. is exerting itself to overcome them. Within the next few weeks, N.O.M.A., already established in 56 U. S. and Canadian cities, has scheduled organizational meetings for business executives in eight western cities—Denver, Spokane, Vancouver, Seattle, Portland, San Diego, Fort Worth, and Oklahoma City.

N.O.M.A. influence has been notice-

4 MICRO SWITCHES

operate auxiliary wire cutting and reeling equipment...and reset this **productimeter** in 4 seconds



For sixty odd years the Durant Manufacturing Company of Milwaukee, Wisconsin, has been engineering and manufacturing rugged industrial type counters.

Durant has always been insistent upon quality of the parts which go into their product. Their use of Micro Switches in this Motor Reset Productimeter is a typical example of their fine engineering.

This Reset Productimeter measures predetermined lengths of insulated cable and automatically coils the cable on large reels. When the predetermined length has been wound, a Micro Switch inside the counter housing starts a small motor which resets the counter at the predetermined setting for the next operation. The reset cycle is approximately 4 seconds.

One of the metal clad Micro Switches shown adjacent to the motor operates a flying shears which cuts the cable. Another controls the mechanism which leads the severed ends into a waiting reel. The third starts the reel winding when it is set and ready to go.

This is but another example of the wide range of application of the precision, speed, long life and absolute dependability of Micro Switch. It is typical of the vital role which Micro Switch is playing in industrial machinery of every type and kind.

The small size, light weight and dependable performance of Micro Switch will be equally important for new designs. The flexibility of Micro Switch to meet the ever-changing demands in precision switching requirements has made it the outstanding precision snap-action switch. Today Micro Switch is 2~~4~~ 2413 different combinations of electrical characteristics, housings and actuators, the result of close cooperation on design problems with our customers.

It is to your advantage to have your engineers become fully informed on Micro Switches, both for present designing and to improve future products. We will send as many Micro Switch handbook-catalogs as your engineering department may require.

BUY ALL THE BONDS YOU CAN

The basic Micro Switch is a thumb-size, feather-light plastic enclosed precision snap-action switch that operates on force differentials as low as ¼ ounce and movement differentials as low as .0002". It is listed by the Underwriters' Laboratories with ratings of 1200 V.A. loads from 125 to 600 volts A.C. It can be supplied in a wide variety of housings and a broad range of actuating mechanisms.

Micro Switch Corporation, Freeport, Illinois • Branches: 43 East Ohio Street, Chicago (11) 11 Park Place, New York City (7) • Sales & Engineering Offices: Boston • Hartford • Los Angeles

The trademark MICRO SWITCH is our property and identifies switches made by Micro Switch Corporation

© 1943

MICRO SWITCH

Made Only By Micro Switch Corporation... Freeport, Illinois, U. S. A.

able in recent business correspondence—omission of flowery salutations, trite closings, and the full address which appears on the envelope. W. H Evans, secretary-treasurer of the association, reports that this streamlining process has increased the letter productivity of stenographers in his own office at Philadelphia by 15% to 30%.

Other time-saving expedients advocated by N.O.M.A.: rearrangement of offices into "production lines"; handwritten, rather than dictated, notations on communications referred to other departments; and more efficient employment of office machines.

Coal to Newcastle

Louisville, surrounded by coal, is forced to adopt a central distributing system to stretch supplies to fuelless homes.

Coal shortages in Louisville, on the edge of Kentucky's vast bituminous field, led the Louisville Coal Institute to establish a central distribution system to relieve dealers who are literally swamped with orders and have no prospect of filling them.

• **For New Residents**—The central depot was set up principally for new residents who have no established dealer contact and therefore are likely to receive less consideration from strange dealers. But old-timers, too, were quick to sense the advantage of the clearing house when their orders brought no response from their former suppliers. So far, the depot has routed more than 700 orders to the 55 of Louisville's 75 dealers who are participating in the distribution scheme. Four dealers have refused to participate.

• **WMC Wields Club**—Dealer membership in the "syndicate" is "voluntary"—except that the local office of the War Manpower Commission, which has approved the plan, brandishes a club over nonparticipants. Harry H. Hansbrough, Jr., Louisville director of WMC, decreed that dealers who do not subscribe will be relieved of the necessity rating which gives them preferred status in hiring and retaining workers in a tight labor area.

Orders are allocated by the depot, usually to the yard nearest the buyer. Unless the dealer and buyer reach some independent agreement, all purchases are C.O.D.; buyers must arrange to be on hand to accept delivery; five days' notice is required for less-than-truckload orders so that small loads destined for the same neighborhood can be pooled; and only in the event of emergencies will dealers undertake to deliver an order on the same day that it is received.

• **Manpower Clearing House**—The depot also serves as a manpower clearing house. Drivers and laborers who are employed by dealers temporarily out of coal are shunted to well-stocked yards until their own employers are able to use them again. Dealers on the whole have expressed satisfaction with the working of the plan.

WIRED FOR SOUND

Los Angeles postoffice employees are using Hollywood tricks to popularize the use of postal zone numbers in mailing addresses (BW—May22'43, p34). At busy street corners, they set up an overgrown talking mailbox and invite passersby to ask the zone number for any city address. A microphone inside "pipes" the question to a hidden and experienced postman who delivers a snappy comeback via the loud speaker inside the receptacle.

Ford Saws Wood

At a time when most of Michigan's sawmills are closing or curtailing, the motor magnate is expanding lumber output.

Michigan's venerable but none-too-robust lumber industry is undergoing adversity that has closed mill after mill but Henry Ford, lumberman, doesn't move with the crowd in lumber any more than he does in matters automotive. He's expanding.

• **Many Acquisitions**—During a quarter-century, Ford has acquired thousands of acres of timber land in Baraga, Marquette, and Iron counties in Michigan's upper peninsula; many believe he has become the largest single factor in the area's lumber business. Now he has bought an additional company and has speeded operations at other mills.

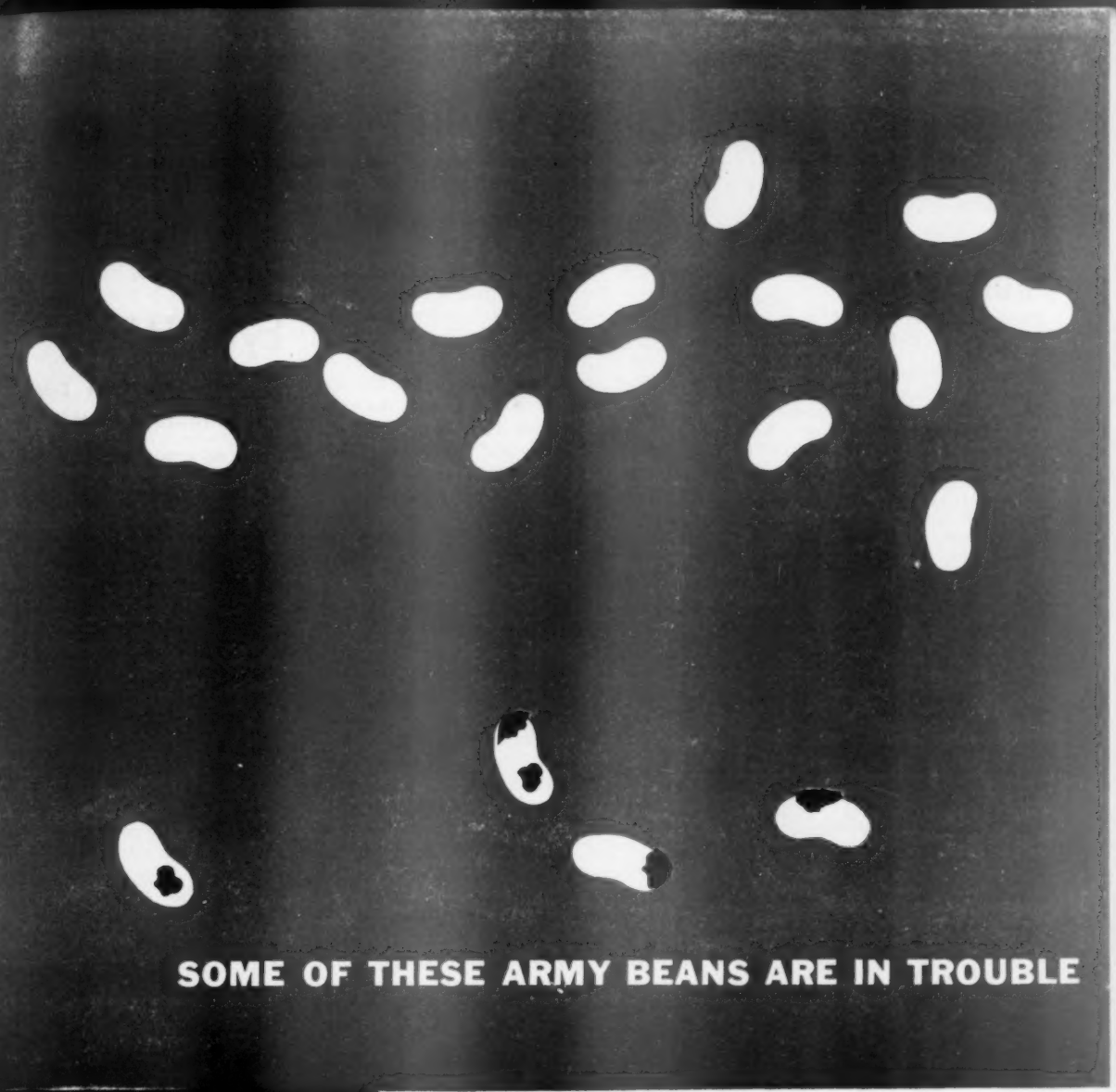
Things began to happen when Ford, a few weeks ago, visited his Huron Mountain lodge on the shores of Lake Superior for a brief vacation. Two of the closed mills he ordered reopened; managements of two others were shaken up. But the biggest news of the trip was the purchase of the Kerry & Hanson Flooring Co.'s sawmill and townsite at Big Bay.

• **Typical Suspensions**—Kerry & Hanson had suspended operations earlier in the year, blaming an adverse ruling of the National War Labor Board and Office of Price Administration ceilings. (Similarly, the I. Stephenson Co. of Wells, Mich., has disposed of its timber holdings and is liquidating, and the Wisconsin Land & Lumber Co. of Hermansville, Mich., another large operator, has announced permanent closing because of OPA price lids.)

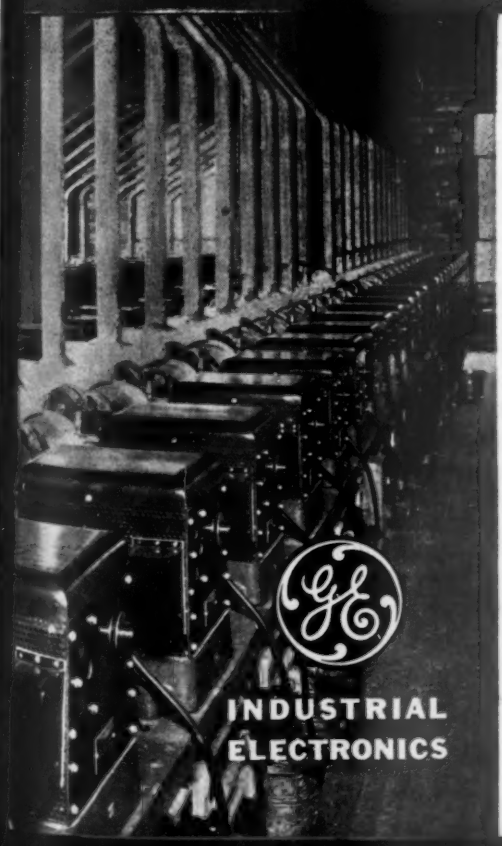
Ford, dropping his customary reticence, talked freely about his plans for the newly purchased property at Big Bay. He intends to modernize the sawmill and improve the townsite. And, of interest to employees at the other properties as well as those at Big Bay, he revealed that the motor company's laboratories at Dearborn had analyzed wood samples from upper Michigan to determine their utility in products such as cellulose plastics.

• **Growth of Holdings**—The motor magnate's first excursion into lumbering came in 1922 when the Ford Motor Co. bought and modernized a sawmill at L'Anse. A year later, he acquired the small lumbering town of Pequaming, five miles to the north on the shore of Keweenaw Bay. About the same time, a half million acres of timber land in Baraga County were purchased, and such holdings were later doubled by acquisitions in neighboring counties.

Ford's biggest project, however, was



SOME OF THESE ARMY BEANS ARE IN TROUBLE



SOME of these beans, the spotted ones, are headed for discard. Electronic equipment, pioneered by General Electric, has weeded them out unerringly.

Daily, in a Michigan plant, 80,000 pounds of beans pass before electronic sorters. The white beans get by. Discolored beans, unsuited for the market, are detected by a photo-tube. Immediately, a metal finger flicks these beans into a reject chute!

In other plants, other G-E electronic apparatus converts a-c to d-c; controls speed of motors; matches colors; measures, times, inspects, counts. High-speed resistance welding is possible only because of electronics.

You can purchase *standard* G-E electronic apparatus that is ready at once for installation. Or, where indicated, G.E. will build *special* apparatus. Each recommendation is backed by an intimate knowledge of your industry. General Electric also supplies the *complete electrical equipment* of which the electronic apparatus is a part.

War production today demands the speed and efficiency of electronics. Business leadership tomorrow cannot do without it. A call to our nearest office will put you in touch with a G-E industrial-electronics specialist. *General Electric Company, Industrial Divisions, Schenectady, New York.*

Hear the General Electric programs: The G-E "All Girl Orchestra" *Sunday 10 p.m. EWT, NBC*—"The World Today" *news, every weekday 6:45 p.m. EWT, CBS.*

GENERAL ELECTRIC

670-127-8930

The best investment in the world is in this country's future—BUY WAR BONDS

PROCESSING
INFORMATION CENTER

Visit New York's Madison Square Garden, December 6-11. Then and there, at the 19th Exposition of Chemical Industries, you'll find — under one roof — a panorama of modern chemistry's progress in the process industries.

Visit it as a practical information center to post you on new laboratory equipment, new processing equipment, new uses for chemicals. At its exhibits you'll see modern materials, equipment and supplies. You can get the answer to many of your problems from the technical representatives at the exhibits of the country's leading producers of materials and builders of processing equipment.

Note the dates December 6-11. Come and bring your associates.

19th EXPOSITION OF CHEMICAL INDUSTRIES

MADISON SQUARE GARDEN • NEW YORK • DEC 6-11, 1943

Managed by International Exposition Co.

"I HAVE A DATE AFTER 'V' DAY..."

Now and then, during these busy days, I look ahead to that unknown date I plan to keep with the future... that fine car of fabulous design that I'll have... and its contemporary in pipes — a KIRSTEN! — the pipe that has proved its durability by today's exacting demands... proved satisfactory as a pleasant, clean, refreshing smoke... today or tomorrow. I don't know what "make" my car will be... I *do* know that my pipe will be a KIRSTEN.

KIRSTEN PIPE COMPANY
Seattle 1, Washington

• WAR PRODUCTION ONLY AT PRESENT •

the establishment of a large lumbering and wood chemical plant at Iron Mountain. The Ford boom swelled Iron Mountain from a decadent iron mining town of about 5,000 to a city of almost 20,000. But when the old Model T went into the discard and much less wood and much more metal began to find use in Ford cars, operations at the Iron Mountain plant and the boom city's population declined sharply.

• **And Finally Gliders**—Before the war, station wagon bodies were manufactured at the Iron Mountain plant, providing employment for about 2,500. A slump followed with the conversion of the automobile industry to war production, but award of an Army contract to the Ford company for the manufacture of gliders has proved a fillip to activity there.

Shortly after Pearl Harbor, too, orders came from Dearborn to suspend operations at the Pequaming sawmill. Homes in the village were boarded up, their occupants moving to jobs elsewhere, and even the quaint schoolhouse, which Henry Ford had furnished himself with rustic furniture and other articles reminiscent of his own childhood, was closed.

• **Closed Like the Others**—In 1936, Ford had launched his interesting experiment in the creation of a forest-sustained community. He established the model village of Alberta in the midst of a hardwood forest, ten miles east of L'Anse, and there erected a modern but small sawmill, neat workers' homes, scenic streets, gardens, and parks—something vastly different to the familiar but drab company towns of the north country. The Alberta sawmill also was shut down.

Now, on Ford's orders, Alberta is being reopened as is Pequaming. The management shakeups, too, are expected to boost output at Iron Mountain and L'Anse.

Eyes West!

Midwestern packers see a lush market on the Coast, and they're coaxing ICC to open it up by revising freight rates.

Independent meat packers from the Mississippi River to the Rockies are trying to break into the big and growing West Coast meat market. They have filed a complaint with the Interstate Commerce Commission against the present freight-rate structure, which they say virtually bars them from the Coast.

• **Deficiency Area**—The West Coast is a deficiency livestock area that has to import much of its meat either live or dressed to feed a great and growing population.

Hearings begun in Denver before ICC Examiner George J. Hall were continued in Los Angeles, and were scheduled later in San Francisco and Portland, Ore.

• **The Specifications**—Typical exhibits at Denver showed:

That it costs $11.40 to ship a 1,000-lb. live steer to New York City; $9.66 to ship his 600 lb. of good meat. It costs

CANS FOR COPPER

Tin can salvage amounts to more than a patriotic metal conservation campaign in Los Angeles County, Calif. It's also a thriving business for reclaimers and a vital necessity for Arizona copper mines. Thus old containers piled at Santa Monica (right) and other California dumping points perform two roles. Some are sent to detinning plants where they render 100 lb. of precious tin from every 5,000 cans; but most are shredded for the mines. There they are used to recover copper from mine waters, by precipitation, in the ratio of 1 lb. of copper to 1¼ lb. of shreds. Food rationing, however, is taking its toll in the salvage business. Before rationing, for example, the Los Angeles By-Products Co. normally collected 150 tons of cans daily but now gets only half that much. To make up the difference, the company sends a large

tractor-drawn magnet around to city dumps to collect stray cans from the discard. Meanwhile, detinning becomes less profitable as new cans, plated by an electrolytic process, using only one-third as much tin as the old hot dip method, come into wider use.

only $8.30 to ship the same steer to Los Angeles, but $11.34 to ship the meat. One result: Only 70% of cattle suitable for slaughter which are shipped to the Denver Stockyards Co. are killed in Denver, 97.7% of the sheep, 83.6% of the hogs.

That it costs Nebraska packing firms 75¢ to ship 100 lb. of livestock from Scotts Bluff to Spokane, Wash., $1.93 to ship the meat, $1.77 to ship other packing-house products.

That the Cook Packing Co. of Scotts Bluff last year shipped 496 cars of meat and other products east, only three cars west; that Capitol Packing Co. of Denver so far in 1943 has shipped 320 cars east, only 36 cars west, though it is nearer to the West Coast than to New York City, where 301 cars were shipped.

Big Five Aloof—Packers are not all together on the case. The Big Five, with packing houses in both areas, are standing aloof. The complaint was instituted by George A. Hormel Co. of Austin, Minn. The Hormel Co. asked a flat decrease in the rates on fresh meat, from midwest points west.

BALTIMORE TO BERLIN

In the recent endurance flight of the Martin Mars, world's largest flying boat, an imminent large-scale program for a fleet of such giants is seen by Aviation News, a McGraw-Hill publication.

The Mars remained aloft 32 hr., 17 min., traveled more than 4,500 mi., and still had sufficient fuel when it landed to continue the flight several hours. Aviation News points out that the distance flown is equivalent to a flight from Baltimore to Berlin.

Upon final approval by the Navy, the Mars will be put into service as an overseas cargo carrier.

TRUCK TRIAL DELAY DENIED

Defense contentions that immediate trial of antitrust conspiracy charges against two western motor freight rate-making bureaus would obstruct the war effort won no sympathy in the United States District Court at Denver last week.

Judge J. Foster Symes rode roughshod over this argument, presented in behalf of the Middlewest Motor Freight Bureau of Kansas City, Mo., the Rocky Mountain Motor Tariff Bureau, Inc., of Denver, and seven carriers and 20 individual defendants. Carriers declared that 70% of their work is war-essential.

Attorney General Francis Biddle, in a letter to the court, charged that the defendants, accused of conspiracy to eliminate independent rate making (BW–May29'43,p32), were attempting to use the war effort as an excuse for continuing coercive restraints and that postponement would "encourage the continuance of illegal and flagrant abuses in transportation prejudicial to the war effort." A trial date is to be set later.

In the Solomons

A crew of natives tending the reels as wire is played out for new telephone lines on the Solomons. Press Association Photo

and on *All Fighting Fronts*

KEYSTONE *Wire*

"Fighting units are no farther apart than the communications that reach them", is a by-word of the Army. And *wire* plays a vital role in linking our fighting units together.

This is one of the many uses of wire mill products at the front. You'll find products made from Keystone wire fulfilling many other essential needs of our fighting forces.

That's why Keystone production for civilian uses must be restricted until victory. But we are looking forward to again supplying *your* civilian needs "when our boys come marching home."

Field communications . . . one of the thousands of war uses for wire mill products.

KEYSTONE STEEL & WIRE CO., Peoria, Illinois

Special Analysis Wire for All Industrial Uses

SAMSON SPRING WIRE

SCRAP is still critically needed . . . get every pound to the steel mills.

Transport Miracle in Persia

So efficient has been American organization of the truck shuttle and so thorough the speeding of Trans-Iranian Railway traffic that pattern has been set for other war theaters.

TEHERAN, Iran—A few weeks ago, a Studebaker truck rolled out of a steaming Persian Gulf port and headed north across the Iranian desert under a blazing sun. Under a tightly drawn tarpaulin were bulky boxes marked "U.S.S.R." The driver, a Negro sergeant from Texas, was No. 10 in that day's long motor convoy heading for Russia.

● **Millionth Ton**—There was nothing to distinguish either him or his truck from the hundred or more in the convoy. But, as the convoy roared away in billows of desert dust, a Russian general gripped the hand of an American official with two silver stars on his collar. These two men knew that No. 10 was carrying the millionth ton of American lend-lease supplies to be hauled across Iran for delivery to the world's biggest and bloodiest battle line—in Russia.

Though it was a truck which carried the epoch-marking load, the American achievement in Iran involves much more than the motor shuttle service over 800 miles of blistering desert road and tortuous mountain highway. It is actually one of the war's biggest and most dramatic transportation jobs. By truck and by train—barely five months after Americans took over—eleven times as much traffic as was carried over the famed Burma Road during the peak month of its operation was moving across Iran to Russia.

● **Ports Modernized**—To achieve this, Americans have converted ancient and drowsy fishing villages along the Persian Gulf into modern ports where low, gray Liberty ships now tie up, bulging with cargoes for the Soviet front.

Experienced railroad men—from the Pennsylvania, Seaboard, Santa Fe, and half a dozen other roads, all in khaki for the duration—now operate one of the world's most spectacular railroads, the "single-track wonder" spanning Persia from the Gulf to the Caspian.

● **Regular Production Line**—Trucks, jeeps, and airplanes arriving from the United States in huge crates are pushed along newly built and thoroughly efficient assembly lines which simulate on a small scale, in the midst of a camel-age country, giant counterparts at Detroit and San Diego. In the airplane assembly alone, more than a thousand Americans work day and night to maintain a flow of fighters and medium bombers to the Russian pilots waiting to fly them to the front.

At three cities along the motor highway (the desert section of which has been built by Americans in the last few months), Army officials graduate from well-organized schools nearly 1,000 new Iranian drivers every two months to operate the trucks which now are coming off the assembly lines at the rate of one every ten minutes.

And all along this dangerous route, there are new camps to house hundreds of our men who are committed to getting the goods to Russia.

● **It's Business at Work**—The story of our Persian Gulf Service Command is a story of American big business temporarily operating in khaki.

There is a background of West Point in the handful of ranking officers who make up Maj. Gen. Donald H. Connally's headquarters staff. But drop down the line to the colonels who supervise the plane assembly, boss the gangs that unload the ships, direct wartime operations on the Shah's amazing $100,000,000 railroad, or operate the 600-mile truck shuttle service, and there are men far more familiar with California plane factories, the docks at Hoboken and New Orleans, the great Union Pacific freight yards at Omaha, and the trucking business in Ohio and Indiana than with the formal discipline of West Point and the Pentagon Bldg.

By pooling their technical and managerial skills under Army command, they have created a model for big-scale war transportation which may well be duplicated in other theaters in the next two years. The United States has never before pulled such a variety of executives together on a single project outside the country and made their assignment so distinctly "business" that they are not even classified as combat forces.

● **Engineering Marvel**—Iran has only one railroad, built by the Shah before the war more or less as a royal plaything though ostensibly to attract tour-

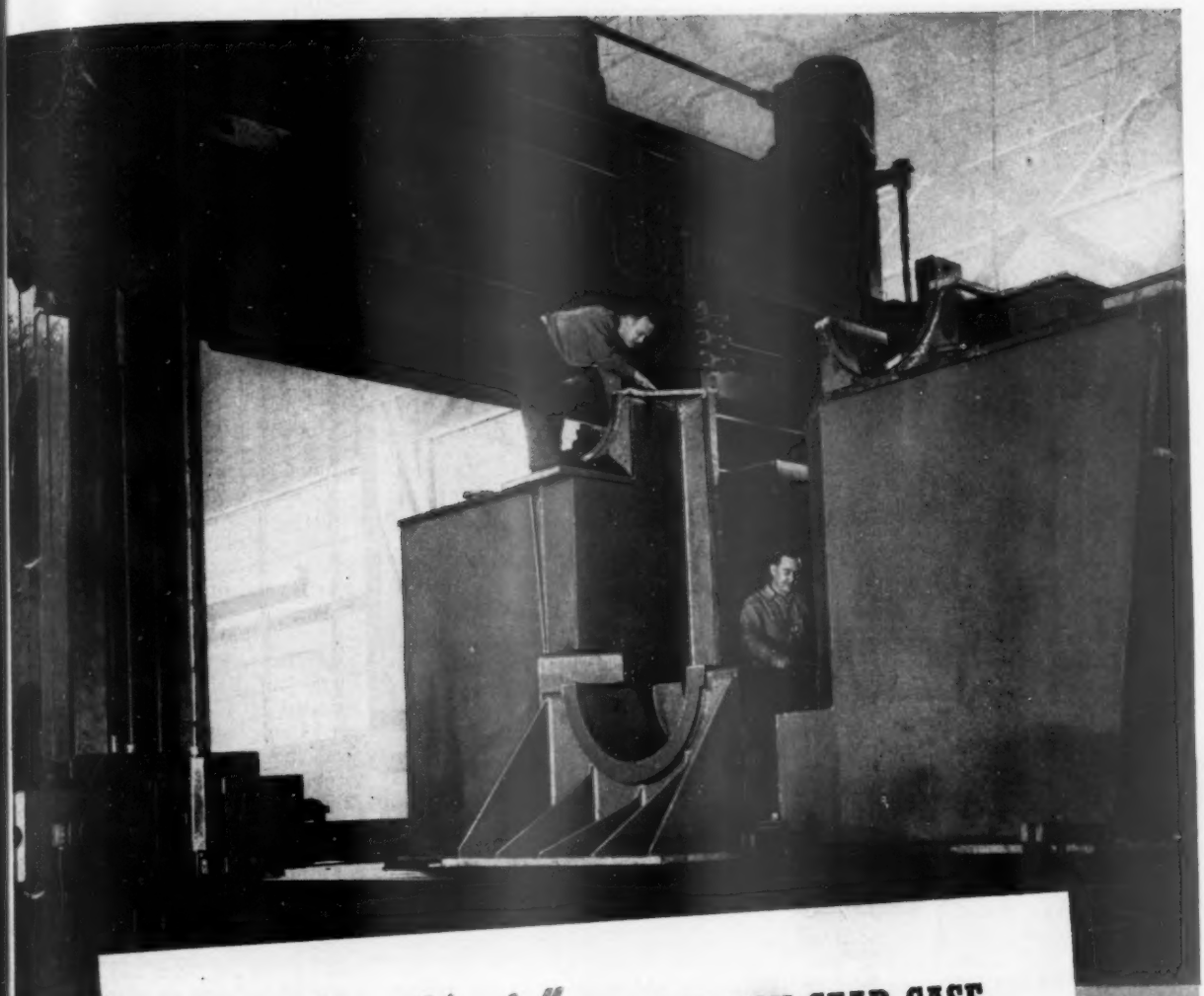
While trucks go through checking stations, drivers buy quick lunches from Persian vendors, then hit the "Corridor" to Russia with American-built trucks. En route are refueling stations and drivers' rest camps.

MANAGEMENT STORY

In contrast to the usual "feature story" of Russia's American-built lend-lease lifeline across ancient Persia, this on-the-spot report, dispatched by Business Week's traveling foreign editor from far Teheran, is the "management story" of how American executive skills have been put to work on "the Corridor job."

More than that, it is a preview of the way in which American executive skills and American capital may be put to work on the postwar job of opening trade routes to new markets for the products of American industry.

It follows, and will be followed by, similar reports from the foreign editor, now on his way home after a war correspondent's long swing through Britain, North Africa, the Middle East, southern Italy, and Brazil.

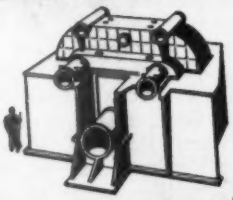


"Barber Chair" FOR A 21-TON GEAR CASE

Here's probably the biggest "barber chair" you've ever seen! And its current customer is a 21-ton gear reduction case for the new 8,500 h.p. Hendy steam turbine units being "shaved" in meticulous thousandths of an inch.

This "chair" is known as a planer and its load capacity of 75 tons on a 510 sq. ft. bed shows the tremendous size of the jobs that Hendy is equipped to handle.

However, this planer is only one unit in the vast array of major equipment that is helping Hendy and its divisions set unprecedented records for turning out massive power equipment with straight-line production methods.



For the Maritime Commission and the Navy Department Hendy production includes steam turbines and reduction gear units up to 8,500 h.p., Liberty and Frigate steam engines, turbo-lighting sets, naval ordnance, hydraulic pumps, motors and generators.

JOSHUA HENDY IRON WORKS

ESTABLISHED 1854

SUNNYVALE • CALIFORNIA

Divisions: POMONA PUMP COMPANY
CROCKER-WHEELER ELECTRIC MFG CO.

Manufacturing Plants: SUNNYVALE, LONG BEACH, POMONA and TORRANCE in CALIFORNIA • AMPERE, N. J. • ST. LOUIS, MO.

Branch Offices: NEW YORK • WASHINGTON • PHILADELPHIA PITTSBURGH • CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

On a line of repair pits, 90 trucks an hour on the average are given a final check before starting the grueling run through Iran to Russia. Brigades of Iranian mechanics make repairs under supervision of Americans.

ists to the country. Financed entirely within the country (mainly from tea and sugar taxes), it was built by Danish, Swedish, German, British, and American engineers.

It is a marvel of engineering, but it is a single-track line with inadequate sidings for heavy traffic. From the Gulf, it cuts straight across the desert to the foothills of Persia's formidable mountains, and then threads its way precariously through 220 tunnels and over a 7,200-foot pass before dropping precipitously to 85 feet below sea level at the small Caspian port of Bandar Shah.

• **Many Big Changes**—Before the war, there were two passenger trains a week over the line; now there is a daily express in both directions. All traffic was controlled by a single phone circuit between Teheran and the Gulf. If the "up" train was five hours late, the "down" train waited for five hours on the prescribed siding where they were to pass.

Today, American engineers have turned this royal plaything into an efficient railroad that carries more than half the load of Russian supplies across Iran.

At the railroad dispatcher's office at any division point along the 860-mile line, you will find an old-timer, perhaps from the Northern Pacific or the Pennsylvania, directing a staff of sergeants who learned the lingo of their business long before they sailed from the United States, and who have simply substituted on their dispatch sheets names like Khorramshahr, Ahwaz, and Bandar Shah for Seattle, St. Paul, and Chicago.

• **New Locomotives**—At the repair shops, most of the machinery is German, and a handful of old Krupp locomotives still take their turns over the checkup pits, but new diesel locomotives—nearly 100 of them—now haul heavy trains across Iran.

First move was to survey the whole system, draw up a list of equipment and rolling stock necessary to carry the monthly delivery quota that Washington had guaranteed Moscow, and then buckle down to the task of stretching what was on hand as far as possible until fresh supplies arrived.

• **All-American First**—The first American experts-in-khaki arrived in Iran last December and began gradually taking over full operation of the railroad. By Mar 29, the first train completely under the control of Americans and carrying all-American supplies for Russia steamed into Teheran, bound for the Caspian.

To an engineer accustomed to driving the powerful locomotives in the United States, the Trans-Iranian, with its small, German-built locomotives, was a tremendous comedown, but, during the last four months, familiar new equipment has been arriving from home: American-size, four-wheel-truck freight cars with automatic brakes; a complete telephone and teletype service for dispatching trains; half a dozen automobile-engine, all-weather inspection cars; and powerful headlights for the locomotives (they formerly ran without headlights).

Repair shops now run night and day with the result that, in the past 90 days, at one shop 101 locomotives were repaired—in contrast with 91 during the 14 months before Americans arrived on the job.

• **From Coal to Oil**—Because of the shortage of coal in oil-rich Iran, all locomotives have been converted to oil. Despite the heavy freight traffic which now pours north to Russia every day, more local freight is hauled within Iran than was ever possible with the limited facilities of the prewar line.

To maintain adequate medical care for the thousands of American and British service men now patrolling the line or stationed at several dozen maintenance points (by mutual agreement Britain has assumed full responsibility for policing the line), two hospital trains—brought from India—are constantly on the move.

And to insure an adequate diet among native workmen in a country which lives primarily on tea with sugar, and bread, the Persian Gulf Service Command provides a full day's ration of each (issued at midday so it is sure to be consumed by the worker himself).

• **Iran Collects**—The U. S. is paying prearranged rates for the use of the Trans-Iranian line, is training hundreds of trainmen and repair workers to a degree of skill heretofore unknown in the country, and providing faster and more frequent railroad service.

During the two years before Americans took over the Persian Corridor delivery job, a few hundred trucks—all operated by local contractors—handled all of Iran's highway business (including goods bound for Russia) on an individual contract basis. Now experienced American operators have turned this haphazard business into one of the war's notable transportation successes.

• **Roadbed Oil Treated**—First job was to make a trackless route across the desert from Gulf ports to the mountains—175 miles away—into a heavy duty road. Local engineers had never found a way of building an adequate foundation for a modern highway across the shifting desert sands. But British engineers from the big Anglo-Iranian Oil Co. cooperated with the determined American roadbuilders, and they finally found a way of treating the soil with a new oil product. As a result, Iran has a new highway across the desert and Anglo-Iranian Oil has a new product which it can market in desert countries after the war.

Next step was to organize the shuttle service so that the trucks would roll day and night. PGSC trucking experts turned to their experiences at home and laid out a "block" system along the 800 miles of highway—each block ranging from 150 to 170 miles. At the end of each block there is a complete rest camp and maintenance crew. A driver runs his truck a "block" and then drops off for a meal and a few hours' sleep before he picks up an empty (or one loaded with southbound local freight) and returns to his base for a one-day layover.

The truck, meanwhile, is given a quick checkup (needed frequently along the bumpy mountain highway) and rolls on over the next block in the hands of a fresh driver, prepared to up-

The laziest bird on earth!

ONE UNSPEAKABLE MEMBER of the bird family is too lazy to dig for his own food! He rides on the backs of cows, and waits for them to move through the grass. As they do, they stir up insects for him.

But that's not why cowbirds are hated so. They're too lazy to raise their own young! Mother cowbird just drops her eggs in another bird's nest. Since the young cowbird usually pushes out all the other young, every cowbird is reared at the expense of the lives of at least two other birds!

Only one bird has ever outsmarted the cowbird. That bird is the Yellow Warbler. She just builds a new bottom for her nest—right above the egg of the cowbird!

Americans should have a feeling of kinship for the Yellow Warbler, because this ability to get things done by outsmarting the enemy, by bold, sweeping measures, has made American industry famous. It's the same reason so many of our war plants today are using Cone Multiple Spindle Automatic Lathes to get things done. For example, on one job, an 1¼" Six Spindle Conomatic in 10 seconds per piece completes 11 operations, one of which comprises simultaneous threading and tapping in the same spindle position.

A host of new industrial uses is being developed for Cone Multiple Spindle Automatic Lathes as a result of wartime demands. And after victory is won, these new uses for Cone Automatics will contribute in building the kind of world we've all been dreaming about.

ONE Automatic Machine Company, Inc., Windsor, Vermont

Mediterranean Invasion Landing (Official Signal Corps photo). Roustabout Cranes are hustling war materiel at home and overseas

The Free-Roving Tractor-Footed ROUSTABOUT CRANE

assures you low-cost delay-proof

LOAD HANDLING

Roustabout Crane handles giant bomber wing . . .

Magnet makes it a speedy war-scrap handler

WHEN YOU HAVE heavy bulky stuff to move, load or stack, Roustabout Crane is a whole crew of husky stevedores — tireless, always ready, easy to operate. *Where* you want it *when* you want it, it prevents delays, keeps things moving. Handles 5 tons without a grunt. Wheels or crawler tracks, all tractor power, ball-bearing boom turntable, gears in oil, full swing boom. Invaluable around war-busy factories, airports, railroads, docks and warehouses, where they're going by hundreds these days. For fast action now . . . for post-war cost-cutting . . . write today for the facts.

THE HUGHES-KEENAN CO.
595 Newman Street, Mansfield, Ohio

ROUSTABOUT CRANES
By Hughes-Keenan
Load-Handling Specialists Since 1904

hold the average 30-miles-an-hour sche-
ule which officials have prescribed
delivery goals are to be met.

• **Problem of Assembly**—But operati
a trucking service 15,000 miles fr
home raised other problems. In the fi
place, the trucks—Mack, Studebak
Dodge, Chevrolet, and Ford (plus
few jeeps for patrol duty)—arrived
the Gulf in a knockdown state in or
to conserve precious shipping space.
put them on the road quickly, th
assembly plants were built and put
full operation. (One had actually be
established on a small scale by an a
vance guard of General Motors techn
cians.) One truck comes off the asse
bly lines every ten minutes.

In the truck assembly plants, the
are now 15 native workers to each Am
ican supervisor. At the highway ma
tenance stations, there are three train
Iranian mechanics to each foreign i
spector. Nearly half the drivers in th
shuttle service are now Iranians. T
meet this demand for Iranian drivers, a
American colonel has organized thr
driver schools through which 1,000 a
prentices now pass every four to s
weeks.

• **Numbers a Secret**—Not until after th
war will it be revealed how many truck
and men are involved in this unusu
transportation project, but experts o
the job insist that it will surprise eve
the biggest American trucking compa
nies. It will not surprise the visito
who has watched the lines of trucks a
Gulf docksides or seen them rolling i
billows of dust past a plodding cam
caravan in the desert.

So efficient has the transport syste
become that supplies now pile up at th
Russian end. Not until supplies actu
ally began pouring into the Russia
dumps along the Iranian-Soviet borde
would the Russians admit that they ha
grossly underestimated America's abilit
to deliver the goods.

• **Pattern for War Jobs**—Looking at th
American executives-in-khaki checkin
their daily target sheets in their jerry
built offices at the airplane assembl
plant, in the railroad shops, at the grea
freight marshaling yards in the north
and at the native employment office
in the cities along "the Corridor," the
visitor wonders if similar organization
may not turn up before the end of the
war along a reopened Burma Road o
some still unforeseen supply route.

And one imaginative transportation
officer—with an eye on a hundred o
more young engineers who are making
names for themselves on the Corridor
job, but who were too young to have
established themselves in the United
States before the war—is already explor-
ing the possibilities of contracting to
handle the entire public transportation
system of small, backward countries
after the war. He believes the plan will
sell, and he thinks he can make it pay.

HOW ABOUT A POSY FOR THOSE BEHIND THE SCENES?

THE MAGNIFICENT performance of the star rates the plaudits of the audience. But shouldn't there be spared from the star's bouquet a flower for those behind the scenes whose efforts have helped to make the performance such a triumph?

America's gigantic war effort is the most spectacular production of all time. Its drama is breathtaking. Its cast of characters huge. Some of the actors must remain in the background . . . but their performance is none the less essential.

We here at Joyce have been destined to play that kind of role. You won't find our name in the headlines. We'll be unmentioned in thrilling stories of naval and military victories. But we're gratified to know that we've been able to help bring about those victories. For the products of Joyce artisans can be found in battle on land and sea, in the air and under the sea—indispensable parts of our fighting forces' weapons and equipment—parts whose dependability and precision functioning are vital.

Joyce is proud of the justly deserved honors awarded American Industry, for the parts, assemblies and machines built by Joyce engineers and craftsmen are helping many of the nation's greatest war-production plants to attain and maintain new production records.

If you find it difficult to meet your war contracts, let Joyce's specialized production skill show you the way. And, when Victory comes, that same Joyce "know how" will be immediately available to assist you in licking postwar production problems. A Joyce representative will be glad to call and explain the unique advantages we are equipped to offer.

☆ *More Bonds over here mean more Bombs over there* ★

BEHIND THE MAN ◗ BEHIND THE MAN ◗ BEHIND THE GUN

JOYCE
Machine Company
FRANKFORD • PHILADELPHIA
MANUFACTURERS OF PRECISION PARTS FOR ALL KEY INDUSTRIES

"This is a fine time to take a smoke, Tom!"
"It's COUNTRY DOCTOR PIPE MIXTURE."

Yes, Country Doctor *IS DIFFERENT* soothingly cool, satisfyingly mild-mannered with not a bit of bite or burn. Years of careful testing and blending of eight of the world's finest tobaccos produced superbly fine Country Doctor Pipe Mixture.

COSTS ONLY A PENNY A PIPEFUL

Country Doctor Pipe Mixture

For particular Pipe Smokers

If your dealer doesn't have it, write Philip Morris & Co. Ltd., Inc., 119 Fifth Avenue, New York, N.Y.

IN THE PACIFIC
his job will be easier if you back him up with war bonds ★ in St. Louis

your job will be easier after a good night's rest at..
HOTEL Lennox
DOWNTOWN LOCATION... NOISE-PROOFED ROOMS... FROM $3.00

STOP WORRYING
PACK 'EM IN
Cloth BAGS

● Cloth mailing or parts bags—with draw-strings for easy enclosures. Fine for shipping engravings, machine parts, or unbreakable objects. Every size and description with or without address labels attached. Easy to store... Quick to handle... Saves packaging... Safe and economical... Speeds delivery. Any quantity, prompt deliveries. Write today for sample and prices.

Send us all your bag problems

GENERAL BAG CORPORATION
2715 E. 34th Street, Cleveland, Ohio

CANADA

Ceilings Imperiled

Dominion's one-man farm bloc is thumping for increase in agricultural prices, and labor in Quebec is after more pay.

OTTAWA—Canada's farm bloc, although it consists of only one man, is almost as upsetting to wartime anti-inflationists as the more numerous faction in Washington.

● **Aim Is Twofold**—Minister of Agriculture James Gardiner, by driving for higher prices for primary food products, has Price Control Chief Donald Gordon worried. Gardiner is out to boost farm prices to the point of raising substantially the cost of subsidies to hold Canada's price ceilings and to puncture some consumer ceilings as well.

Gardiner's aim is to offset the farm labor shortage by incentive prices, with the ultimate aim of boosting Canada's share in providing relief for countries liberated from the Axis. Gardiner's attack hits Gordon just at the time when it appears that Ottawa is about to announce its plans for a new anti-inflation program.

● **Wage Bonus Expected**—Despite the Government's intentions of holding a new line, Canadian ceilings will have to be stretched to cover higher production costs of manufactured and processed consumer goods, due mainly to the necessity of paying another cost-of-living bonus to labor on Nov. 15. The bonus will add between $30,000,000 and $35,000,000 to Canada's annual wage bill.

This will be the second, and probably the last, bonus to be paid under the system installed in 1941, requiring a 25¢-a-week rise in wages for workers earning $25-a-week or more (lower-paid workers gain 1%) for every one-point rise in the cost-of-living index. A payment was avoided last spring when the government pushed the cost-of-living index down nearly two points by subsidizing production costs of selected index items.

● **Quebec Wage Drive**—Another new pressure added to the already adequate weight of other attacks on inflation controls comes from Quebec. Labor unions there are speaking up for wage rate parity with Ontario and other English speaking provinces. A flood of wage adjustment applications is swamping the Quebec Regional War Labor Board and the National War Labor Board.

If this drive succeeds, Canada's traditional industrial and trade economy will be unbalanced. Expansion of manufacturing in Quebec has been stimulated during the last 30 years by relatively low wage rates and the high labor stability in Quebec. These factors have worked to the advantage of Quebec industry, particularly those requiring high worker skill, and any upward adjustment of wages would remove the geographical differential.

● **Incumbents' Problem**—With a federal election expected within the next few months, Ottawa's position in regard to these demands from labor is made more difficult. It is doubted that the administration can resist pressures which have such political dynamite

It Isn't Gold's Day

Although metal provides Canada with its richest proven ore reserves, war has cut into operations heavily.

Canada's gold mine operators, considered of the walk in good times or bad for a generation, have had to surrender prestige and manpower until today, even though they own the Dominion's most valuable proved mineral deposits, the place is subordinate to nickel and copper mines producing for war

● **Main Mining Areas**—Canada has many productive gold fields, mostly in Ontario. Porcupine and Kirkland Lake, richest areas, lie 100 miles from one another, some 400 miles north of Toronto. East Malartic and Malartic lakes are centers to the east, in Quebec. Another other major gold camp has built up around Red Lane, northwest of Lake Superior, near the Manitoba line. Some gold also comes from British Columbia.

Of 35,000 gold miners in prewar Canada, 17,000 were in the Timmins-Kirkland Lake areas. About a third have gone into service or essential industry and have not been replaced. Gold production has declined to about half its earlier levels and bids fair to go considerably lower.

● **Production Curtailed**—Of about 100 gold mines in Ontario, 33 have shut their shafts during the past twelve months, mostly because of manpower shortages, and the others are operating on greatly reduced scales. Bigger mines have cut down by eliminating work in outlying or poor producing levels. (Mines in the U. S., unless they have important base metal output, have been closed entirely.)

Miners still on the job do pretty well. Their base scales cluster around $5 a day for an 8-hr. turn and a 6-day week. In addition, they draw cost-of-living bonuses which run $4.25 weekly or 71¢ a shift at most northern Ontario mines. Contract crews, the ore diggers, earn additional bonuses based on tonnage output, and Christmas bonuses

e not uncommon. The average gold iner of Ontario earns some $2,400 a ar.

Labor Doesn't Move—Last year Canda's Labor Ministry wanted to shift 0,000 gold miners from the Kirkland ake-Porcupine camps to essential ines, but only 800 finally went. If he gold mines are eventually closed as onessential, the workers will find it ard to adapt themselves to other jobs, hich in most cases will be far from here they now live.

The mines are open shop. Local independent unions exist at one or two oints, but no mine has yet been successfully organized by the big labor odies.

Many Ontario mines have byproducts f increasing importance today. Kirkand Lake's Noranda is a major copper roducer. That metal is found in many ther gold mines also; so is nickel, silver, obalt, and platinum. Some mines' machine shops are producing armament arts far from final assembly points.

Luck Plays Its Part—Discovery of ilver led to the opening of the Kirkland Lake and then the Porcupine camp. The Timiskaming & Northern Ontario ailroad, province-owned, was building oward James Bay in 1903, to open up or colonizing the clay belt around Cochrane, Ont., rich farm country for 50 ears.

Blacksmith Alfred La Rose, railroad maintenance man, angered in an argument, threw his hammer at a rock. The rock split. La Rose thought he recognized silver in the break, but provincial geologists also saw evidence of rich nickel deposits. The nickel dwindled, but in the search for more silver, gold was struck.

These days prospecting is on the decline. Findings have been less frequent, more stringent laws hold down flotation of blue-sky stock issues, and the airplane is turning exploration into an extensive rather than an intensive process.

SHIPBUILDING SLUMP?

One of the first casualties among Canada's war industries seems likely to be shipbuilding.

Owners and operators of big shipyards are seriously worried about the future, as cargo vessel contracts are rapidly curtailed. On the West Coast alone, some 40 contracts have been canceled, and the over-all schedule is being cut back by about 25%.

Construction of a strong Canadian navy will occupy some shipyards after the war, but so far no plans have been made to convert yards to production of faster Victory-type ships. Most of Canada's war-built cargo vessels are on loan to Britain and other United Nations, and more than 200 will be added to the merchant marine after the war ends.

ELECTRIC Eye Inspection Equipment is *proved and tested accuracy itself.* This modern genie employs the electric eye principle for the fast, accurate inspection of mass production units, throwing out each one that fails to meet specifications right on the head.

There are no frills and furbelows about Electric Eye Inspection Equipment. It utilizes the speed and flow of light electronically, is entirely automatic, effortless in operation, and invariable in precision. It does its job silently and indefatigably. Only its results are spectacular.

In many of America's greatest ordnance plants it is inspecting to accuracies of plus or minus .0001 and doing it in micro-seconds. It is releasing essential manpower for productive work . . . eliminating gage variables and gage maintenance . . . cutting production costs to an unbelievable minimum.

Today, Electric Eye Inspection Equipment is doing its job in production for war. It has become and will continue to be a "must" where precise, split-second inspection and low cost are factors.

Tomorrow this equipment will be available for the equally important job of peacetime production. Make a note of it.

AUTOMATIC *Precision* INSPECTION

FOR SIZE, WEIGHT, THICKNESS, CONTOUR, FINISH, FLOW, COLOR, SPEED, LIGHT, STRENGTH, HEIGHT, DEPTH

Electric Eye EQUIPMENT COMPANY
6 West Fairchild Street
DANVILLE ILLINOIS

PRODUCTION

Radial Oil Wells

Horizontal drilling of the oil-bearing sands is expected to yield heavy flow from areas once believed depleted.

In Venango County, Pa., where the Drake well gave birth to the petroleum industry more than 75 years ago, a revolutionary drilling operation is nearing completion, and soon it will be known how successful a new method of mining oil through horizontal shafts will be in tapping the 6,000,000,000 bbl. of rich Pennsylvania crude oil reserves.

• **Gravity Flow**—Originator of the plan to "mine" oil is Leo T. Ranney. His system is to sink a shaft to the pay sand—in this case, the First Venango—and then drill a series of horizontal wells through which the oil can collect by gravity. Within a short time, Ranney plans to touch off a 15,000-lb. charge of nitroglycerin in his subterranean wells to start the flow of oil. By this method, he hopes to solve the problem of waning production.

Vertical wells are sunk to the strata of oil sands, each well exposing a depth of only about 20 ft. of the pay dirt. Such methods, it is estimated, will recover only 8% of Pennsylvania's huge oil reservoir in the next 20 years. By having his horizontal wells thoroughly permeating the oil sands, Ranney believes that when the 24 wells in his project, designed to drain 400 acres of land, are completed, about 60,000 linear feet of producing sand will be opened up. This is an exposure equal to 3,000 vertical wells (each costing an average of $3,000), in the 20-ft. substratum that is to be tapped.

• **Concrete Shaft**—The experimental oil mine, whose progress is being watched by the oil industry, is located in a small hollow along Two Mile Run, not far from Franklin, Pa. Under methods and with equipment he has developed, Ranney has sunk a 429-ft. vertical shaft to the pay sands. A monolith of 14-in. concrete, this shaft has a diameter of 8 ft., but at the bottom is a circular work chamber with an inside diameter of 27 ft.

From this work chamber, 24 horizontal wells are to be drilled approximately 2,700 ft. in length, radiating, like the spokes of a wheel, into the pay sand. A rotary drilling machine bores the horizontal wells two at a time on opposite sides of the underground work chamber. Two of these wells, nearly complete, are 5 in. in diameter for the first 100 ft., and for that distance are cased with 3½-in. casing. Beyond the ends of the cased holes are extended 3-in. diamond drill holes. For 1,500 ft., the holes are virtually level with the well mouth, but after that distance, they slant upward to provide a gravity flow for the oil.

• **Sees 10 Bbl. Daily**—The amount of crude now being obtained from the two wells is reported as encouraging, but the true success of the venture will not be proved until the wells are completed and shot. While most of the vertical wells in the area are producing from one-fourth to one-tenth of a barrel daily, Ranney predicts that at least ten barrels of oil will flow daily from each of his wells when completed. Horizontal drilling will recover more oil from fields now abandoned than was obtained originally, it is claimed.

Backing Ranney is the Venango Development Corp., a stock company formed by eleven oil-producing and refining companies and five individuals from the Pennsylvania-New York oil-producing area. The development company's original capitalization of $150,000 reportedly has been increased to $300,000.

• **Tested in Texas**—Years ago, Ranney conceived his oil mining scheme and first experimented in Jack County, Tex., in 1921-25. A major oil company bought his patents and established the Ranney Oil Mining Co. of New York. But the lush production of the East Texas field halted further experimentation.

After regaining his patent rights, Ranney applied his process, on a modest scale, in the First Cow Run Sand in southeastern Ohio. The installation is claimed to have more than paid for itself in the last three years. But the present project in Pennsylvania is the first major effort to determine what the horizontal wells can do.

• **Water Producer**—The same principle has been used by Ranney in developing industrial and municipal water production. In building a Ranney well, a shaft is sunk from 75 ft. to 150 ft. in depth, and 8-in. perforated pipes radiate from the bottom of the shaft horizontally for a distance of 200 ft. to 300 ft. into the water-bearing strata of the ground.

For years, various interests have sought to obtain more efficient methods of recovering Pennsylvania grade oil, so much in demand for war purposes. With a $400,000,000 investment, the Pennsylvania crude industry, enjoying a $60,000,000 annual income, has seen present production drop 5,000 barrels daily from last year's average. Ranney believes his 15,000-lb. shot of nitroglycerin soon will demonstrate that his horizontal well is the means of obtaining the vast store of Pennsylvania crude not reached by present recovery methods.

Compressed Cold

Lower temperatures, too, are useful in the compression of dehydrated food for preserving structure of fat globules.

Use of heat in the compression of dehydrated foods to achieve higher density and greater cohesion has led to the discovery that even cold temperatures can be a useful tool.

• **Coffee Is Frozen**—Some foods are quick-frozen now at temperatures ranging from 20F down to −20F where it is desirable to keep fat globules from breaking down under compression of from 250 to 2,500 lb. per square inch.

Coffee for overseas use is an illustration. Subjected to the higher temperatures employed for, say, dehydrated

At the head of his oil "mine" is Leo T. Ranney, originator of the revolutionary drilling procedure aimed at tapping Pennsylvania's rich crude reserves.

. . . is being mined by International in New Mexico

Discovered in America only a few years ago, potash, a chemically rich mineral salt, is now being mined domestically in sufficient quantities to supply our critical war needs. The rapid development of International's mines helped replace imports cut off by the war and assures ample production of potash for the many ways in which it can add to your comfort and pleasure in the future. International's Muriate and Sulphate of Potash are basic ingredients in the fertilizers with which farmers are growing larger, higher quality crops.

International's mine supplies Magnesium Chloride for International Magnesium, the new light metal used in our war planes. Through the rapid progress of chemical research, many new ways have been developed to utilize potassium chemicals in improving manufacturing processes in the paper, glass, leather, food, drug and other industries. America is fortunate that this great natural resource is now being developed for the benefit of its industry and agriculture.

International Minerals & Chemical Corporation, 20 North Wacker Drive, Chicago.

International
MINERALS AND CHEMICALS

Mining and Manufacturing

PHOSPHATE • POTASH • FERTILIZER • CHEMICALS

How a call for a DOCTOR led to a WORLD FAMOUS DEVICE

and the founding of a business that is playing a vital part in ELECTRONICS for war

An Invitation to MANUFACTURERS and INVENTORS

Have you an idea or invention in electro mechanics which you think will aid the war effort, or which has peace-time application? We'll be glad to develop it with you on a mutually satisfactory basis.

We are planning to add 5 or 6 products to our post-war line. If you have a product or idea which you believe would fit in with our activities, write our President, Mr. W. E. Ditmars in complete detail. We will consider any practical arrangement.

One day back in the 80's, William Gray had to call the doctor for his wife, critically ill. The handiest phone was in a nearby factory, but permission to use it was obtained only after appealing to a company official. Proffered payment for the call was curtly waved aside.

After this unpleasant experience, Gray set out to devise some method by which the general public could at all times have easy access to a phone. The result was his invention of the telephone pay station, and the founding of a business that has taken a leading part in electro-mechanical progress for the past 50 years.

So when the war came, we had the technical skill and manufacturing facilities for providing the high-precision electro-mechanical devices essential to our armed forces . . . Large quantities of *ELECTRONIC* equipment have been designed and manufactured in our plant, as well as equipment for wire communication and sound recording.

When Victory is won, you can likewise look to Gray for new advancements in electro-mechanical products — and in electronics, which promises to play such an important part in peace-time developments.

THE GRAY MANUFACTURING COMPANY

Makers of telephone pay stations since 1891

HARTFORD, CONNECTICUT
230 PARK AVE., NEW YORK

Reports Wanted...

BY THE UNITED STATES GOVERNMENT

must be accurate and made on time. Accurate Figures produced in a Hurry by Fridén Fully Automatic Calculators speed up the preparation of reports.

These high-speed, easy-to-operate Calculators are available when applications to obtain delivery have been approved by the War Production Board. Sales and Service in all principal cities.

FRIDÉN

CALCULATING MACHINE CO., INC.

EXECUTIVE OFFICES AND PLANT · SAN LEANDRO, CALIFORNIA, U. S. A.

apple nuggets, coffee would yield more of its flavor. Instead it is frozen and subjected to pressures of from 1,5[illegible] psi. to 2,500 psi. and the volatile oils are retained.

• **Moisture Content**—Technique of compression varies with the type of food. Recent experiments conducted by the Western Research Laboratory of the U. S. Dept. of Agriculture at Albany, Calif., show that foods which can be dehydrated to only a small percentage of moisture content fare better when compressed with heat than with cold.

Apple nuggets, which have a 2[illegible] moisture content, require only 450 psi. and 170F to produce a density of 64 lb. per cubic foot, while if the temperature is reduced to only 75 F, an 850-psi. pressure is required to attain a density of 53 pcf.

With beet cubes, which have a 4.1% moisture content, 160F and 659 psi. produce a 62-pcf. density, giving a 57% reduction in volume. In the case of beet slices having a 5.7% moisture content, 120F and 650 psi. are used to give a 64-pcf. density and an 80% saving in bulk.

Whole prunes, however, which have a relatively high moisture content (28%), compress best at 75F. with 15[illegible] psi. to produce a 78-pcf. density.

• **Heat Makes It Pliable**—The purpose of the high temperature is to put the food into a more pliable state so that it will lend itself better to compression and permit reaching a high density without breaking into small pieces.

While dehydration has accomplished considerable saving in weight and space, compression has conserved space another 30% to 80%.

• **Potato Shrunk to 4%**—The potato, which dehydration reduces to a mere 15% of its original weight and size, is further compressed 75% into a minute briquette. A shoe box full of these briquettes, when reconstituted, would serve 100 men.

Compression produces a contraction of dehydrated rutabaga shreds amounting to 64%; of cabbage flakes, 82%; onion chips, 65%; sliced sweet potatoes, 60%; apple nuggets, 73%; bean soup, 50%; beef and hamburger steak, 70%; beets, 65%; carrots, 55%; eggs, 50%; cranberries, 35%; whole milk powder, 30%; coffee, 42%; cream of cabbage soup, 80%; and chocolate pudding, 47%.

• **Dozen in a Shell**—A 14-lb. package of compressed dehydrated eggs contains 537 fresh ones; one dozen would fit into one eggshell.

For the Russians, bortsch briquettes containing enough soup for two persons are squeezed into a space the size of a small matchbox.

• **Space Saving Estimated**—Auto Ordnance Co. (submachine guns), Greenwich, Conn., which developed the compression process, has estimated that the

See an Ozalid machine in operation

The chances are—Ozalid whiteprints are being made in a plant in your vicinity ...and you may be able to witness a demonstration of simplified printmaking.

Bring your own engineering drawings. *See* how you can make whiteprints in one continuous operation . . . and save time, labor, and materials.

COMPARE OZALID WITH ANY OTHER METHOD

You'll be surprised at the compactness of an Ozalid machine.

It can be installed in any corner of the drafting room. This saving in floor space is possible because Ozalid eliminates the chemical baths, driers, and plumbing connections employed in other processes.

This simplification allows you to quickly train an inexperienced person to operate the machine at top efficiency.

In addition, you get exclusive printmaking extras! . . .

CHECK THESE OZALID EXTRAS

1. You're able to use the widest variety of sensitized materials—papers, cloths, and foils . . . and make prints having blue, black, or maroon lines on a white background.

You'll find that Ozalid whiteprints are easier to read and check than blueprints. They are also fade-proof and wash-fast.

2. You make "duplicate originals" in the same manner as standard prints —no Van Dyke difficulties. These may be used in place of the original in subsequent print production...or to eliminate unnecessary drafting when making design changes.

It is not necessary to redraw any part which remains the same as in the original!

3. You're able to use cut sheets as well as roll stock in an Ozalid machine, thereby eliminating trimming waste.

No paper is lost by pasting up "leaders."

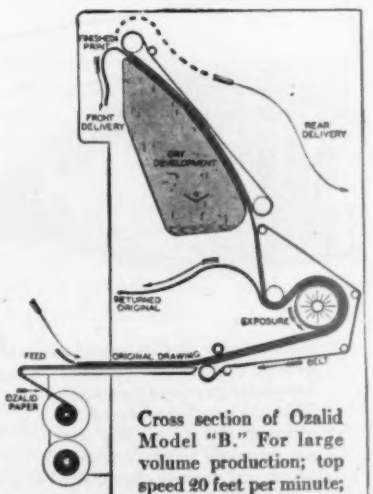
No prints are unusable because of distortion.

FULL LINE OF MACHINES

There's an Ozalid machine for every print production requirement. So if you want to turn out prints at speeds up to 20 feet per minute—or if you need only a dry developing unit to use with your present printer—adopt Ozalid.

Write for catalog and sample booklet of whiteprints. See how leading manufacturers, save time, labor, and materials.

OZALID—MORE THAN A PRINTMAKING PROCESS



Cross section of Ozalid Model "B." For large volume production; top speed 20 feet per minute; front or rear print delivery; many new features.

OZALID PRODUCTS DIVISION

GENERAL ANILINE AND FILM CORPORATION

Johnson City, N. Y.

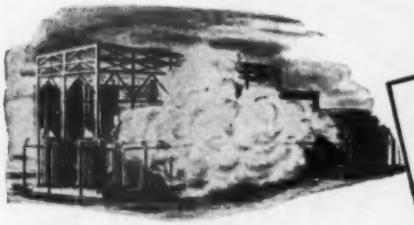
OZALID IN CANADA—HUGHES OWENS CO., LTD., MONTREAL

The portable extinguisher 80 feet long!

No, not the container... that's 7" in diameter by 27½" high. But the carbon dioxide it contains expands 450 times when released. That's enough fire-smothering gas to fill a cylinder 80' by 2'! And that's why this Kidde product is one of the fastest fire-fighters known.

Bullets keep him alive! Steel "bullets" shoot buoyant carbon dioxide into his life-belt. In Soda King Syphons they put the "fizz" in soda water!

Emergency brakes are needed on planes, too. When hydraulic gear is shot-up, Kidde cylinder supplies braking action of compressed gas.



Fire kills itself! At unattended substation, signs of fire were found but no damage. Kidde system detected, snuffed it out—without human aid!

Walter Kidde & Company has devoted itself to the science of harnessing gases-under-pressure. War has greatly advanced the scope of this work. New uses are constantly being discovered, which will promote the comfort and safety of the postwar world.

WALTER KIDDE & COMPANY, INC., 1022 MAIN ST., BELLEVILLE, N. J.

NYLON SKIRTS SEEN

Six months ago it was reported that men's suits of nylon cloth were being readied for the postwar market (BW—Apr.24'43,p85).

Though the prediction is yet to be officially confirmed by the sole producer of nylon fibers, du Pont, gave it inferential confirmation this week by announcing that pleated skirts and women's frilly neckwear that will not require ironing may be expected "when nylon is used again for civilian purposes."

These items will be processed in much the same kind of high-pressure steam chambers used for "blocking" nylon stockings; since the temperature of water used in laundering will not approach that of steam, it will affect neither pleats nor press.

Other new applications of the versatile material predicted for the postwar period include: shoes and pocketbooks of fabric processed with coatings of nylon to "look and wear like leather," shoes of woven "nylon straw," both velvet and brocade draperies with permanent pleats, curtains of netting that will require neither ironing nor stretching.

average reduction in shipping space produced by dehydration-compression from 3.32 to 1.

The firm has established a compression plant and extensive research laboratories for postwar development.

It is estimated that one ton of metal used in a dehydrating-compressing plant saves 250 tons of metal in ship bottoms; that for the year 1943 alone, the savings produced by the two processes will have reduced the need for freight cars by 1,500,000 and saved more than 100,000 tons of metal by reducing or eliminating metal container needs.

• **Savings in Dollars**—The Cambridge Tile Mfg. Co., Cincinnati egg dehydrator, has stated that on a 100,000,000 lb. shipment of dried eggs to England the savings on dehydration alone over the shell method would be $348,400 in containers, $39,300 in storage, $42,500 in inland freight charges, $2,310,000 in ocean freight charges, and $13,300 in labor costs, or a total of $2,753,500.

All dehydrated foods produced in 1942 by 120 plants totaled 100,000,000 lb., compared with an estimated 400,000,000 lb. by nearly 800 plants in 1943.

Vegetable dehydration has increased 600% in the last two years. To meet the 1943–44 requirements will require three-fourths of all the vegetables used by the entire canning industry this

Back the Attack—with War Bonds

Prelude to flight

The Flying Fortress* you read about in today's headlines was once merely a vision in the mind's eye of a Boeing engineer. Before that vision became an airplane lifting into the sky, it passed through numberless stages, each giving it definition, and carrying it one step closer to flight.

The Boeing designer you see above is truing up and rendering with mathematical precision the "doodles" that first gave tentative, exploratory shape to a projected airplane. Skilled cabinet workers next take the designer's blueprint and translate it into a miniature model in three dimensions.

In this stage, tiny seats, control columns, instrument panels, windows and bulkheads are shuffled about to check size, proportions, convenience and workability. Once problems are thus solved in miniature, a full-scale mock-up is constructed for double-checking. Only after this is the proposed airplane ready for construction in metal.

Out of such pre-flight stages the Boeing Flying Fortress, the Stratoliner,* the transoceanic Clipper, and the Kaydet PT (Primary Trainer) have emerged. They represent, however, only one aspect of the many highly intricate processes involved.

Other problems demand engineering mastery of such fields as electricity, lubrication, heating, tooling, metallurgy, radio, meteorology, air conditioning, hydraulics and a score more.

The Boeing engineering staff, numbering over 3000 and including men of experience in more than 25 distinct fields, is considered one of the ablest groups ever assembled.

Once the war is won, Boeing skills in research, design, engineering and manufacture will bring you many new and worth-while things; and you may know of any product that if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS **BOEING**

*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS

CONSERVATION
is DeLuxe's Field

This Free Chart
Shows what it takes to
Actually Cleanse Oil

AND OIL CLEANSING IS ESSENTIAL TO MAKING OIL AND ENGINES LAST THEIR LONGEST

May we send you this chart without cost or obligation? It will be helpful to you in visualizing the kind of engineering that you may expect from the DeLuxe organization should you call upon us for counsel on your filtration problems.

This chart will give you an insight into what it takes to actually cleanse oil rather than strain it...what it takes to remove the asphaltenes *before they can join* with other contaminants to form sludge and other harmful substances.

More than any other one thing, this chart depicting the principles of DeLuxe oil cleansing, will serve to make evident why the DeLuxe Oil Filter has won such favor with engine manufacturers, industrial engineers, truck and bus fleet operators and ship engineers who buy oil filters on the basis of lowest per mile oil and maintenance cost.

For your free copy, write DeLuxe Products Corp., 1425 Lake Street, La Porte, Indiana.

DELUXE
FILTERS
and PISTONS

Also, manufacturers of Cast Iron Pistons of special lightweight design; standard equipment with over forty manufacturers.

year. This means one-third of all eggs and one-twelfth of all whole milk.

• **Why Compress?**—Additional advantages claimed for compression are:

(1) It renders foods less perishable by reducing area exposed to air and bacteria.

(2) It reduces the need for gas and vacuum packing.

(3) It increases resistance to insect infestation and moisture absorption.

(4) It provides convenience and speed of handling.

(5) It cuts transport, storage, and refrigeration costs.

While existing equipment has been adapted for use in compressing foods, special equipment has been developed by the Baldwin Locomotive Works, Eddystone, Pa., and Pneumatic Scale Co., Quincy, Mass.

• **Electronic Heat**—A new technique in treatment of dehydrated-compressed foods is the use of electronic heat on the compressed brick in order to reduce the moisture content still further and produce an even dryness throughout. Ordinary oven-drying methods dry from the outside and also require that the material be in shredded form so that there is a maximum amount of area in contact with the oven heat.

Electronic heat makes it possible to remove moisture down to 1%, thus adding to the lasting quality of the food. The food can be dried, then compressed when it is pliable and still retains something like its original shape, and then dehydrated still further electronically.

It is then possible to seal the food into an air- and water-tight container, such as wax paper, and allow it to remain in ordinary room temperatures without change in its condition. The process has been developed by Industrial Electronics Products Division of Federal Telephone Radio Corp.

Paint Cans Short

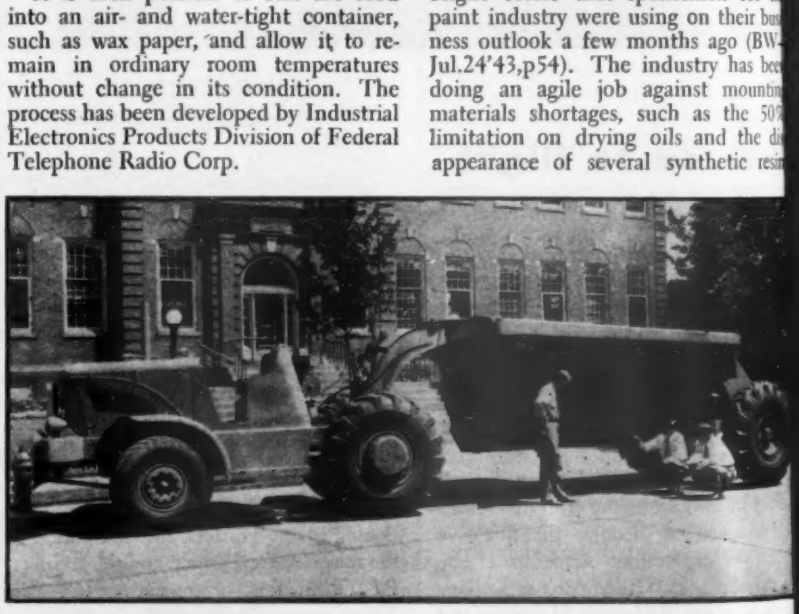
Lack of kraft and jute [for] containers is hampering pa[int] makers, but they're also at gr[ips] with a tough marketing proble[m]

Ordinarily the paint industry wo[uld] be about the last one which would [be] expected to be affected by a paper sh[ort]age. But paint manufacturers in t[he] last two years have packaged their pr[od]ucts successively in tinplate, in ter[ne]plate, in glass, and in paperboard [can] with blackplate steel ends.

• **Short of Jute**—Can manufacturers, [in]cluding American Can, Continent[al] and Sherwin-Williams (with its [own] container factory), have experienc[ed] difficulty recently in getting the [jute] and kraft for fiber paint cans. Repr[o]essed paper and paperboard won't d[o]. So the paint makers have become se[ri]ously concerned about pulp and pap[er] shortages.

The paint industry is especially co[n]cerned with terms of a proposed limit[a]tion order through which the War Pr[o]duction Board is expected to establi[sh] quotas for all users of paperboard co[n]tainers. The trade report that Canadia[n] paint makers are still using terneplat[e] hasn't been smoothing the way for [a] ready acceptance of short rations o[f] paper cans.

• **Other Stringencies Met**—So the pape[r] shortage is casting a shadow over th[e] bright colors that spokesmen for th[e] paint industry were using on their bus[i]ness outlook a few months ago (BW-[3] Jul.24'43,p54). The industry has bee[n] doing an agile job against mountin[g] materials shortages, such as the 50% limitation on drying oils and the de[-] appearance of several synthetic resi[ns]



DRAGLESS DUMPER

Designed specially for highway construction in Mexico and Alaska, a new 17-ton trailer dump wagon (above) gives maximum ground clearance for rough terrain. Built by Milwaukee's Heil Co., the dumper measures 36 ft. long and can carry 25 tons. Its unique clamshell bottom doors slide up the outside of the hopper—giving plenty of clearance for driving away.

B_1 CHALLENGED

The scientific basis for the vast flour-bread-food enrichment program and the huge sales volume of vitamin B_1 tablets has been attacked in a paper published by Dr. Ancel Keys of the University of Minnesota in the authoritative "Journal of Nutrition."

If substantiated by later investigations, Keys' work might burst the whole vitamin B_1 bubble by showing that the normal human can get enough thiamin (B_1) out of the average U. S. diet without the use of enriched foods or vitamin pills.

Primary basis for the food enrichment program is the contention by Dr. Russell Wilder, Mayo Clinic nutritionist, that thiamin deficiencies will develop when the daily intake is less than 0.45 milligrams of B_1 per 1,000 calories.

While working on Army rations, Keys fed groups of men controlled diets which developed his observation that the average person needs no more than 0.23 mg. of thiamin per 1,000 calories. Nutritionists generally agree that it would be hard for a normal person to get less than this thiamin intake from the normal unenriched diet.

d pigments from the market, but int can't be marketed without con-ners.

And few industries at present are re conscious of their marketing prob-ns, past, present, and future, than are paint companies Although the nufacturers, through their National int, Varnish & Lacquer Assn., have en trying to get the Office of Price ministration to lift their price ceil-s, price cutting has figured in com-tition for large government contracts.

Direct Action—At the retail end, older nufacturers remain acutely conscious price competition from such chain re organizations as Sears, Roebuck & . and Montgomery Ward & Co., ch have their own paint factories. meet chain store price competition d a differential that may be upward 25¢ a gallon, well-established com-nies, such as Sherwin-Williams, Pont, Glidden, Devoe & Raynolds, tt & Lambert, Pittsburgh Plate Glass, d National Lead, have always relied quality as a sales argument. Now ey are taking more direct action.

Sherwin-Williams has gone into re-ling through the medium of com-ny-owned stores designed as idea cen-s for decorating and redecorating. It w has 270 such stores, including 60 ith gift shops. Glidden, figuring it

YOUR WAR PRODUCTION

is subject to change on short notice

That's why it pays to use this structure that stretches steel

COMBAT BODIES

Body builders now providing mobile workshops, command posts, and many other types of combat bodies for the armed forces...

TRUCK BODIES

...can quickly change over to the manufacture of bodies for delivery trucks and trailers of all types. No new tools required — no tooling up — no special experience.

War equipment today — peacetime products tomorrow — a lightning-like need for changes will strike your plant when the war ends. For manufacturers using Lindsay Structure in combat bodies, building equipment, housings, and other types of war material — changing to peacetime production will be greatly simplified.

Changes in Lindsay Structure units can be made almost overnight. No new dies are required — no tooling up — no new employee training. And production will get under way with the same speed and economy that characterizes the use of Lindsay Structure in war production.

Lindsay Structure is the modern method of using pretensed sheet metal in light structure of tremendous strength and rigidity. Its versatility of applications, its great strength-weight ratio, its availability in any desired size, and its absolute uniformity assure new economy and speed in the production of your finished products. Write for information, Lindsay and Lindsay, 222 W. Adams St., Chicago 6; or 60 E. 42nd St., New York 17.

LINDSAY STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending
For details, see Sweet's Catalog File

IT STRETCHES STEEL

It's the hour for invasion! Giant motorized artillery pieces are lumbering off landing barges—rolling over strange roads and hills to blast a path for the advancing forces. Huge ammunition trucks keep pace with the guns. Both are safely controlled—or stopped *instantly*—by Warner Electric Brakes. Dependable in all kinds of weather, these electric brakes are demonstrating advantages of their positive braking under most grueling conditions. When Victory is won, the experience gained in war will be applied to electric brakes for scores of new peacetime uses. Then trains—and many other types of power equipment—will be *braked electrically*—and Warner Electric Brakes will be available for an ever widening range of new power braking applications.

WARNER ELECTRIC BRAKE MFG. CO.
Beloit, Wisconsin

BUY WAR BONDS

WARNER
ELECTRIC BRAKES

CONTROLLED SPLIT-SECOND STOPPING POWER FOR ANY PURPOSE

needs a retail outlet in each large to and city in order to make its nation advertising pay dividends, has adopt a policy of owning such outlets whe it can't get distribution otherwise; now has 36 company stores.

• **How about the Painter?**—Another f ture marketing problem of no me proportions stems from the promot effort now being made to induce peop to solve the manpower shortage by d ing their own paint jobs. Switching th business back to the professional paint when the craft again boasts its fu strength may prove to be quite a tric execution of which is vital to individu manufacturers who rely on painters t specify their products.

Willingness of paint material su pliers to furnish free formulas to an one who could invest $5,000 or so i grinding and mixing machinery put hu dreds of small business men into pai manufacturing before the war. Some t these so-called "alley paint factories have prospered, but in the last tw years, the combination of material an manpower shortages, with profit pos bilities elsewhere, has induced many t give up.

• **Nonexchange Agreement**—Anothe limitation on smaller companies is th "nonexchange agreement." Companie which sign it agree not to introduc their products by exchanging them fo goods already on dealers' shelves. Som paint men consider this agreement the industry's "ark of the covenant," whic prevents cut-throat competition.

DRY PLATES ON THE JOB

Any hope that the old-fashioned glas photographic plate might ease the cu rent film shortage (BW—Aug.21'43 p100) long since has been abandoned for practical reasons; but for equall practical reasons, even the most opti mistic predictions of better films afte the war do not include any that wi replace the glass plate for certain uses

With all of its advantages such a compactness, freedom from breakage and lower retail prices through volum production, film must remain secondar to glass plates for certain industria uses where absolute precision of repro duction is required. Films, unlike glas plates, are subject to shrinkage, makin them undesirable for such close precisio reproduction as the making of templat and the multicolor registration often re quired in offset lithography.

As a matter of fact, glass plates hav been in wide and regular use in the graphic arts, even though displaced b films for general use. The Hammer Dr Plate & Film Co., St. Louis, whos products are widely used in the graphi arts and other industries, expects it postwar production to be about 50% film and 50% dry plates, the approxi mate proportions before the war

OF COURSE YOU'LL BE USING MAGNESIUM

Oil tanks for warplanes built by American Magnesium

Very light in weight, because they're made of magnesium, these tanks help increase a plane's payload capacity. Built, accurately, on a production basis for use on an airplane assembly line, schedules are high, while costs are held down. In service, these tanks preserve the quality of the oil they carry, for magnesium does not attack, nor is it attacked by, the oil.

Do these properties of a wartime magnesium product suggest ways of improving what you will manufacture in peacetime?

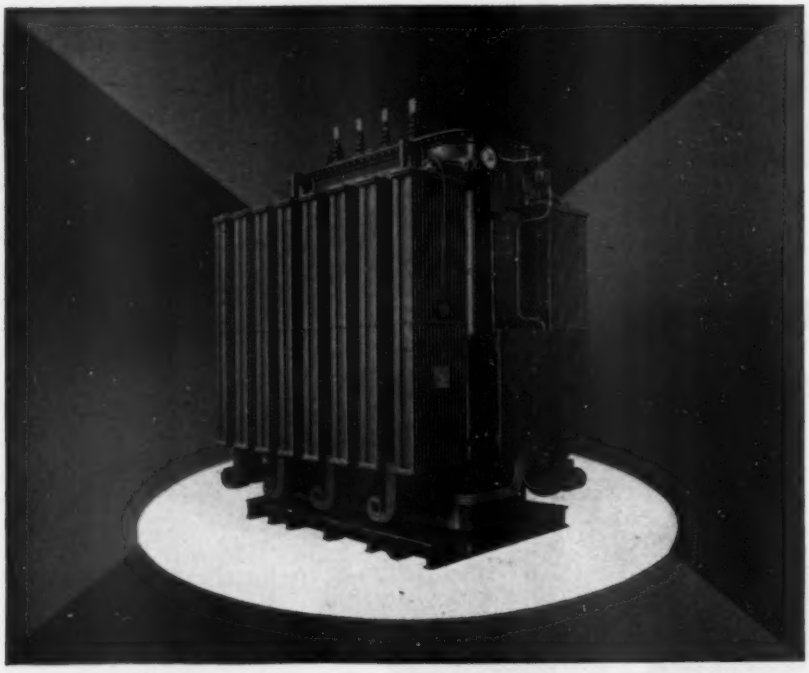
American Magnesium's facilities, which made possible a quick change-over to this kind of production when the emergency first arose, will be available to you for that peacetime production. The knowledge of design and skill in manufacturing gained in more than twenty years of working with magnesium will be yours for the asking. Our engineers will be glad to advise you on how best to employ this lightest of the lightweight metals.

Send for a free copy of the new book, "Designing with Magnesium". American Magnesium Corporation, 1711 Gulf Building, Pittsburgh, Pennsylvania.

MAGNESIUM MAZLO PRODUCTS

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



From All Angles - - All The Time!

Wagner

PRODUCTS

reflect sound engineering and modern manufacturing methods

The delivery of kilowatt-hours to meet increased power demands for war uses and civilian needs is a job being done "around the clock" by Wagner transformers. Ever since the company was founded in 1891, the name Wagner has stood for dependability.

The reputation for dependable performance holds true not only for all types and sizes of power and distribution transformers and constant-current regulators made by Wagner, but also applies to all electric motors, fans, industrial hydraulic braking systems, and other products making up the *complete* Wagner line.

If you need transformers, or other products made by Wagner, consult the nearest of Wagner's 29 branch offices located in principal cities and manned by trained field engineers.

ARMY E NAVY

FOR VICTORY—BUY U. S. WAR BONDS and STAMPS

E43-14

Wagner Electric Corporation

ESTABLISHED 1891

6460 Plymouth Avenue, St. Louis 14, Mo., U. S. A.

ELECTRICAL AND AUTOMOTIVE PRODUCTS

NEW PRODUCT

"Scotchlite"

Four years of highway tests ind that Scotchlite, a new light-refl sheeting for warning signs and out advertising, now being produced Minnesota Mining & Mfg. Co., Paul, will lose only 4% of its reflec ability in that period of time. Since material is made up of minute g hemispheres firmly affixed to a wea proof sheeting, it promises to withst almost any climatic condition and b cleansed by rain and wind.

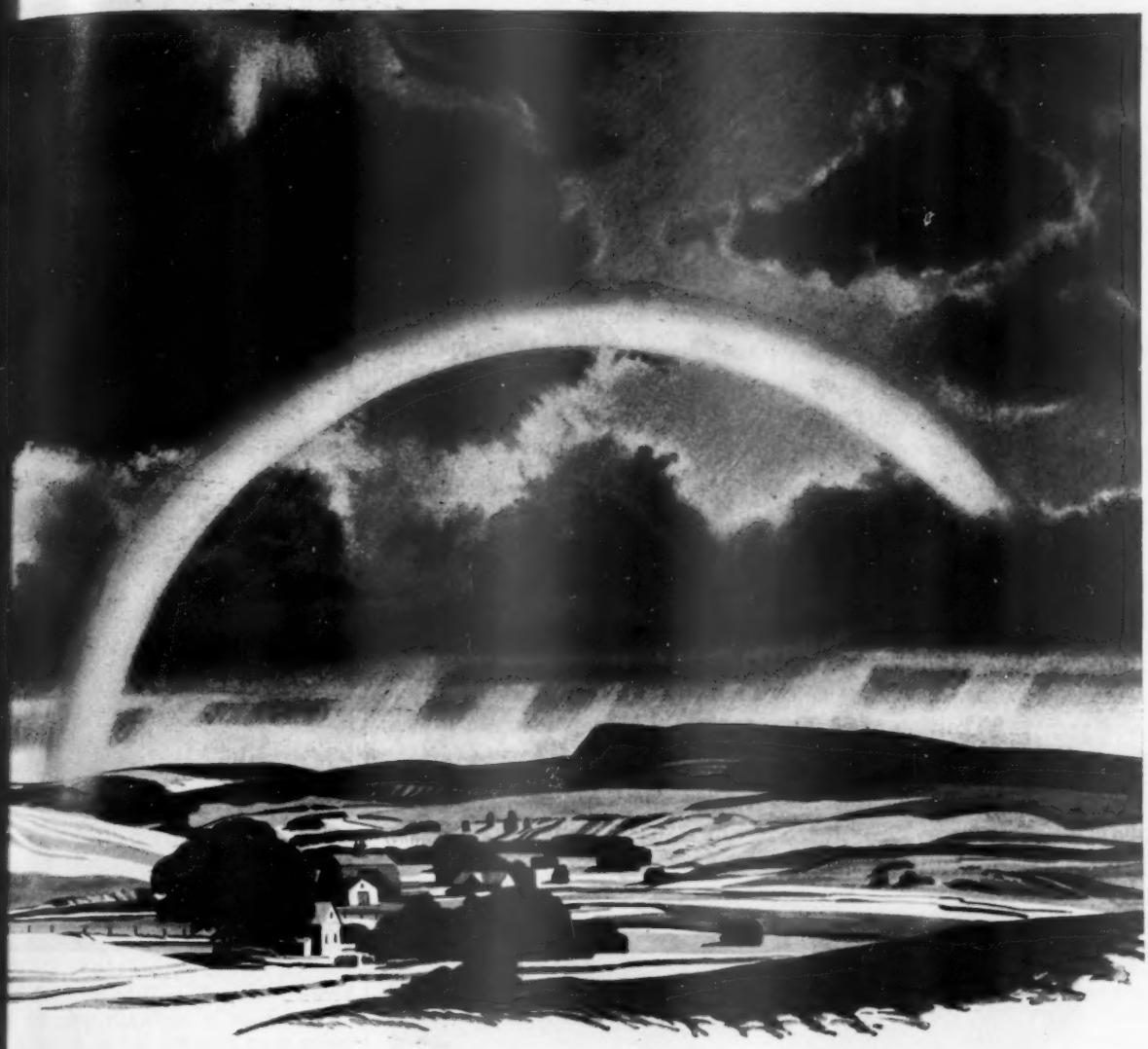
Flexible, it can be cut to almost shape or design and applied to al any kind of surface with a special ad sive. The glass pellets, which neit tarnish nor discolor, tend to reflect available light to the eyes of the vie day or night. Scotchlite comes in sh or in rolls up to 50 yd., 12 in. or 24 wide, in three colors—white, silver, gold. Backgrounds of signs made w it can be painted or silk-screened.

Flexible Tube Support

Newest product of Packless Me Products Corp., 3331 Winthrop Av New Rochelle, N. Y., is the Packl Flexible Fastener. It was developed the request of aircraft manufactur who were looking for improved me of minimizing the whip of hose attach

to airplane engines. It consists of a sp sitive, cone-spiraled spring so form that it terminates in a spring clip.

You attach a fastener of the corr size to any supporting surface with screw driven home through an openi in the apex of the cone and snap th hose under the clip—that's all. Remo ing hose is equally simple. When faste ers are used in sufficient quantity, th promise to prevent whip not only in a craft hose but in flexible metallic tubin copper tubing, and metal piping. Sin they are free to flex in all direction they absorb vibrations and counter "frequencies" that might cause metal



RAINBOW IN THE SKY

There is good news in the work of American laboratories. It is a reason for confidence in the war and a promise for the future.

Little is said about our scientists because they labor behind locked doors and their work is secret. But the topside of the German and Japanese armies and navies know about them. Things they do turn up at the front and make life harder for our enemies.

After the war, from these same scientists and their laboratories, will come the things that make jobs, comforts, conveniences and luxuries for the American people. They hold out prospects for good use of the opportunities victory will bring.

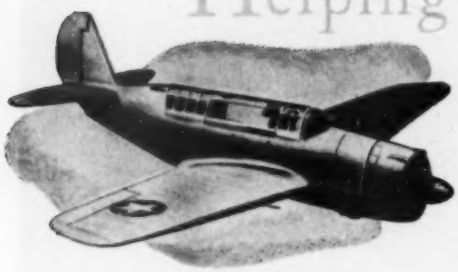
The Bell Telephone Laboratories, with some seven thousand workers, are among the many research groups that are devoted to winning the war.

When that is done, Bell System scientists will be back on their old job of making your telephone service, and your human contacts over the distances, easier and better than ever.

BELL TELEPHONE SYSTEM

HELP THE WAR BY MAKING ONLY VITAL CALLS TO WAR-BUSY CENTERS. THAT'S MORE AND MORE ESSENTIAL EVERY DAY.

Helping aviation forge ahead!

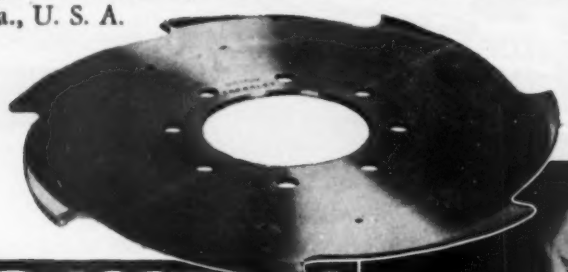


When the forged aluminum alloy aircraft engine cylinder head was developed to replace the cast type head—another revolutionary advance was made in aviation. Not only did this step up aircraft production—but it gave to the planes of the United Nations a decided superiority in combat—in speed, altitude, load and range.

Milling the fins on this new type head constituted a difficult problem. But Disston Engineering, in cooperation with the airplane motor manufacturer, solved it with a Carboloy-fitted saw—a saw which cuts the fins with hitherto unheard of accuracy and speed.

It is significant that this accomplishment in fine toolmaking belongs to Disston alone. It is as exclusive a Disston achievement as the top quality and craftsmanship *you* enjoy in such standard tools as Disston wood and metal cutting saws, files, hack saw blades, machine knives . . . and steel.

For valuable information on how to save precious man-minutes in your plant, write Henry Disston & Sons, Inc., 1028 Tacony, Philadelphia 35, Pa., U. S. A.



DISSTON

Disston skill and experience in many precision operations are required to make this vitally important Fin-cutting Saw for forged aluminum alloy cylinder heads . . . The same painstaking care and skill go into the manufacture of such other Disston products as Solid and Inserted Tooth Milling Saws; Band Saws; Carboloy-fitted Circular Saws for non-ferrous metals; and Tool Bits.

Conserve Man-Minutes and help win the war

crystallization and failure. Wide postwar use is anticipated in many industries—railroad, automotive, refrigeration.

"Faceshield"

Newest attachment for the familiar Skullgard protective hat is the M.S.A. Type "H" Faceshield, product of the Mine Safety Appliances Co., Braddock, Thomas, and Meade Sts., Pittsburgh. It consists of a transparent visor, 14 in. wide and 6 in. deep, for protecting the face against flying particles, comes in three different thicknesses of tough, clear plastic—0.020 in., 0.040 in., 0.060 in.—and in light green or dark green plastic 0.020 in. thick only.

The visor is attached to the hat by means of a fiber strap so pivoted that it can be stationed at any position desired by the wearer. If he does not want to use it on a particular job, he can swing it up atop the hat or detach it.

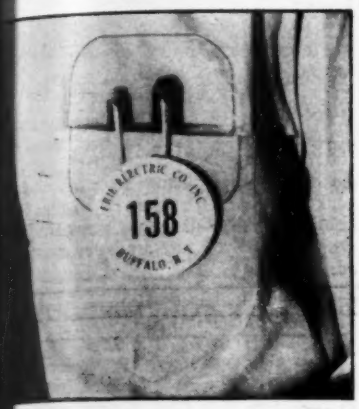
Radiant Grate

If your supply of winter heating oil is doubtful, but if you have coal and a fireplace with an opening 24 in. wide, 21 in. high, and at least 8 in. deep in your office or home, you might try the new Vertical Fireplace Grate of the same dimensions. It is manufactured by the Cleveland Cooperative Stove Co., Cleveland, and will be ready for sale in limited quantities the early part of next month by the Vertical Fire Place Stove Co., 52 Wall St., New York.

Except for its unusual height, the grate looks like many other grates, but it is equipped with top doors on the front for fueling, a shaking mechanism for cleaning the fire of ashes, and a refractory lining which promises to radiate more heat into the room. Tests indicate that when anthracite "is burned nearly 2,500 more B.t.u.'s of heat are recovered per pound of coal when compared to the conventional type horizontal grate."

cket Protector

With laundry and dry-cleaning service
t is, almost anyone who habitually
ies fountain pen and pencils in his
t or vest pocket will want to know
ut the new "Ever-Clean" Pocket Pro-
tor and Badge Holder developed by



rley Smith, 11 Sagamore Terrace,
ffalo, N. Y. It is folded out of a
et of heavy-gage, transparent, cellu-
e nitrate plastic in such a way that the
ide of a pocket is protected against
soiling of pencil leads and the pock-
edge protected against the wear and
r of pen and pencil clips. Perfora-
ns in the outside flap may be used for
pin of an identification badge.

w Products Briefs

Also reported this week, not only for
ir interest to certain designated busi-
s fields, but also for their possible
port in the postwar planning of more
less allied fields and business in gen-
l, are the following:

Woodworking—Boards up to 12x4 in.,
y length and any shortness down to
in., are planed ready to finish with-
t sanding on the compact new Power
ickness Planer manufactured in
nch- and floor-type models by Boice-
ane Co., Central & Albion Sts., To-
do 4, Ohio. It promises to handle both
rdwoods and soft, brashy varieties
wn to veneer-like thinness with al-
st equal ease.

Fisheries—Time-honored method of
loading herring from fishing schooners
ls for "scoopers" who net the fish out
the holds into barrels and "hoisters"
o put the barrels ashore. Newest
thod, employed by R. J. Peacock
nning Co., Portland, Me., calls for an
in. hose and a No. 5410 Fish Pump
veloped by Fairbanks, Morse & Co.,
0 S. Michigan Ave., Chicago. You
od the hold and float the cargo so a
nsiderable volume of water will be in-
uded in the pumping operation. Time
filling a 56-bu. tank with fish is now
o minutes—compared with 15 for the
ne job by scoopers and hoisters—when
ey could be hired.

HOW MUCH WOULD YOU PAY to rid your office of *Noise Demons*?

HOW much would it be worth to you to drive the nerve-jangling noise demons from your office—to get rid of the distracting din of telephones, typewriters, loud conversations? Any figure you'd set is probably more than the installed cost of a Cushiontone ceiling. Why not let an Armstrong contractor prove it with a complete estimate?

484 deep holes in each 12" x 12" unit give Cushiontone a noise-quieting ability as high as 75%. This high efficiency is permanent—not even affected by repainting. Note these extra features: quick installation, excellent light reflection, easy maintenance, extra insulation.

NEW BOOKLET gives the facts. Write for your free copy, and the name of your nearest Cushiontone contractor, to Armstrong Cork Company, Building Materials Division, 3010 Stevens Street, Lancaster, Pa.

WAR BUSINESS CHECKLIST

A digest of new federal rules and regulations affecting priorities and allocations, price control, and transportation.

Butylenes and Isobutane

To increase the amounts of butylene and isobutane available for war needs, the Petroleum Administration for War has restricted the use of these products to the manufacture of aviation gasoline, synthetic rubber, or their components. Refiners and natural gasoline manufacturers are asked to report to PAW the quantities and composition of their hydrocarbon mixtures containing butylenes and isobutane that are now used for any other purpose. Individual natural gasoline plants producing less than 10,000 gal. daily of liquid products are not covered by the order, which applies only to those petroleum mixtures sufficiently rich in isobutane and butylenes to justify their recovery. (PAW Directive 75.)

Soap

An increase of approximately 9% in the nation's soap supply will result from the War Food Administration's order calling for adjustments in soap formulas to increase the use of domestic nonfat materials, especially rosin, as fat substitutes, in amounts varying from 2% to 15%, depending on the type of soap. In laundry soaps and flakes, water softening builders—trisodium phosphate, sal soda, and modified soda—must be added. (FDO 86.)

A simultaneous OPA action will enable manufacturers to hold present price levels so long as the new soaps are as serviceable as those made under the old formulas, or so long as the anhydrous soap content does not fall below 99% in bar soaps and 97% in packaged soaps. (Amendment 2, Commodity Practices Regulation 1.)

Washing Machines

Copper or copper base alloy may now be used in the manufacture of specified repair parts of domestic laundry equipment—washing and ironing machines—in line with the program of the Office of Civilian Requirements to increase repair parts for household appliances. Formerly, copper for this purpose could be obtained only upon special authorization. Purchasers of parts in which copper is used must turn in similar parts, or equal amounts of copper or copper base alloy scrap. This amended action permits a manufacturer to keep an inventory of repair parts equal to his sales in the first half of 1943. (Order L-6, as amended.)

Paper Sacks

A new OPA regulation sets manufacturers' ceilings on paper shipping sacks at prices prevailing between Oct. 1 and Nov. 30, 1941—which, for 95% of the industry, are the levels previously held under GMPR. For the other 5%, the order eliminates increases put into effect since November, 1941. Articles covered are paper shipping sacks of single-wall, duplex, or multiwall types; small bags, such as flour or sugar bags, generally shipped within an outer paper bag. Standard grocery and variety bags covered by Regulation 182 are not affected, nor are specialty bags covered by Regulation 463 (Regulation 480.)

Paints and Varnishes

A 10% increase has been allowed in the amount of drying oils that may be used in paints, varnishes, and lacquers—from 50% to 60% of average use in the base period (1940-41). To make sure that a larger amount of paints and varnishes for civilian requirements will result from this action, provisions of WPB Order M-332 are continued in effect, limiting by types of usage the amount of drying oil allowed per gallon of paint or varnish. (FDO 42, as amended.)

A recent amendment, to overcome difficulties in making gloss-finish paints, permits the use of 2¼ lb. of oil per gallon of paint instead of 1¾ lb (Order M-332, as amended.)

Lubrication Equipment

More than 500 types of lubrication equipment are to be simplified and standardized by WPB. In addition to restricting types and sizes, the order also restricts certain critical materials used in their manufacture. Ratings of AA-5 or higher are required on sales to users, except for equipment with retail value of $25 or less. Similar ratings are required on sales to jobbers and other wholesalers, except for automotive-type fittings for specified uses. Manufacture of repair parts is permitted in amounts equal 150% per quarter, in dollar resale value of the value of parts sold during a corresponding calendar quarter in the year ended June 30, 1941. This restriction does not apply to parts manufactured for direct military or lend-lease use. (Order L-314.)

Furs

Probable top prices for domestic and foreign raw furs, based on March, 1941 levels, have been announced by OPA in connection with a forthcoming price regulation to cover dressed and dyed furs. Prices listed are for best quality raw furs only; further study is being given to probable ceilings on skins of poorer quality. Prices contemplated, but not announced, for dressed and dyed furs are based on raw fur costs.

High-Grade Mica

To conserve the seriously depleted stockpiles of better qualities of mica, used chiefly in condenser film (No. 4 clear and slightly stained block, Nos. 5 and 5½ fair stained block, No. 5½ good stained block, Nos. 6 and 5¾ fair stained film), capacitor manufacturers will receive only enough to maintain their average monthly consumption for the first nine months of 1943. This program will probably take effect Dec. 1.

Dyes

Organic dyes and pigments for civilian use have been increased by one-sixth as a result of a drop in military requirements. An amended order permits deliveries of dyes in Classes B, C, and D of 17½%, instead of 15%, of 1941 deliveries per calendar quarter; plus

WINGED MICA

As U. S. stockpiles of better quality mica dwindle, the production of Brazil's Pedro Espirito mine at Valladares, 100 miles from Rio de Janerio, jumps in importance. Subsidized by the U. S. Metals Reserve Co., the mine yields about a ton of first-quality mica daily, most of which is shipped by air. Meanwhile, WPB, to conserve stockpiles, has notified users of primary mica that, beginning Dec. 1, they will get only enough to maintain consumption at the rate prevailing during the first nine months of 1943.

ARMY E NAVY

Bakewell Aircraft Products Co
Los Angeles, Calif.

The Chattanooga Medicine Co. and Patten Foods Products Co.
Chattanooga, Tenn.

H. D. Conkey & Co
Mendota, Ill.

Cook Electric Co.
Chicago, Ill.

Crossett Lumber Co
Crossett, Ark.

Erie Resistor Corp.
Erie, Pa.

Kansas Color Press Machine Co.
Lawrence, Kans.

National Enameling & Stamping Co.
Jacksonville, Ill.

Ordnance Gauge Co.
Philadelphia, Pa.

Radio Condenser Co.
Camden, N. J.

The Robinson-Houchin Optical Co
Columbus, Ohio

Southern Steel Works Co.
Birmingham, Ala.

Viking Refrigerators, Inc.
Kansas City, Mo.

(Names of winners of the Army Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

ditional 250 lb. for Class B dyes, and an ditional $250 worth above C and D tas. To encourage experiment in postwar ilian use of certain military dyes (Class , 25 lb per quarter of this group are avail- e for the first time to manufacturers for ilian use in the United States or Canada. rder M-103, as amended.)

hildren's Underwear

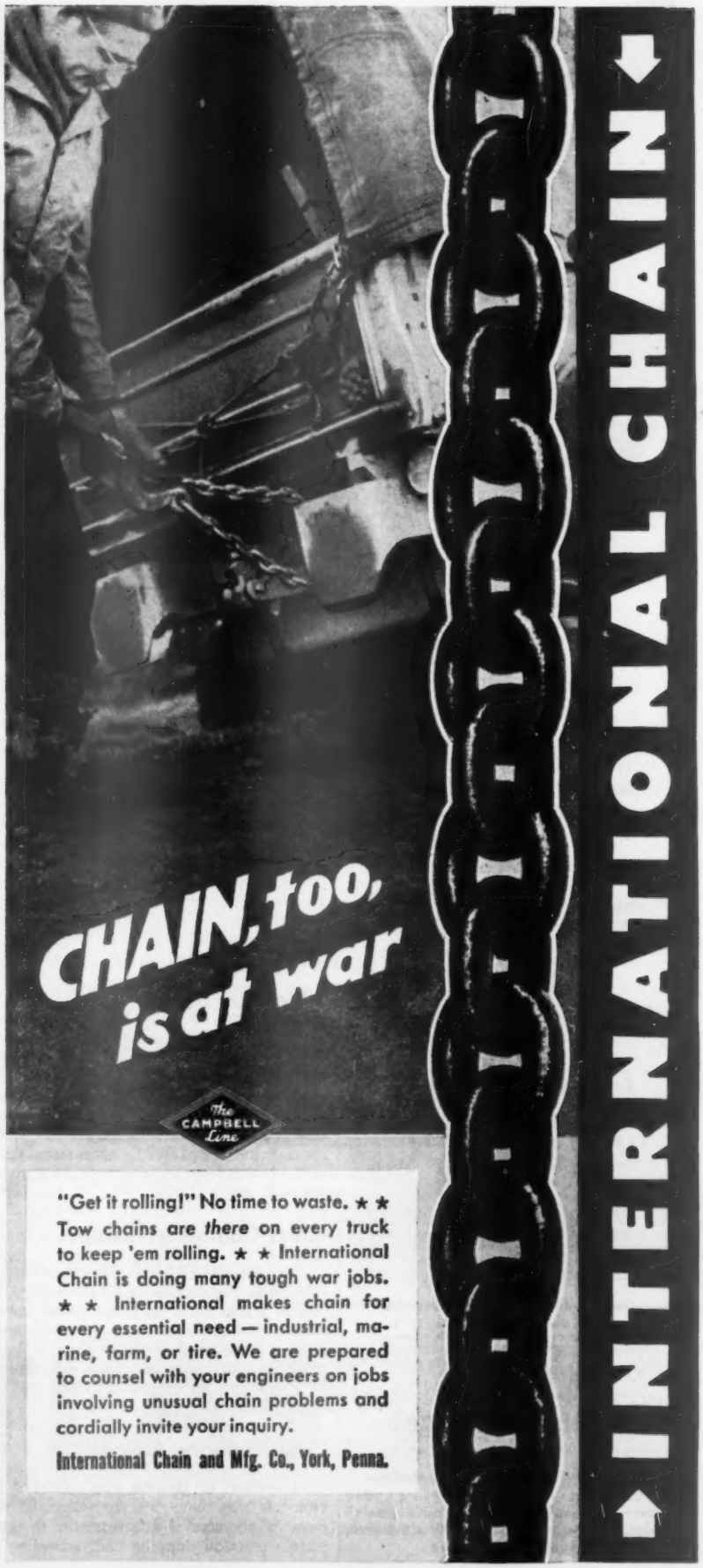
Additional quantities of cotton knitting rns will be available for use in the manu- cture of infants' and children's knit under- r and sleeping garments, according to a PB announcement. Such yarns must be finer than 30/1, and garments made der this ruling must be shipped by Feb. 1944.

pple Freight Charges

To provide apple growers in the Pacific rthwest with returns equivalent to those dealers in other parts of the country, the ar Food Administration has announced at it will pay part of the freight charges apples shipped from Washington, Ore- n, and western Idaho into eastern and ntral states.

teel

Restrictions on small orders of steel have en relaxed with respect to wire (other han wire rope and music wire), pipe, gal-


CHAIN, too, is at war
The CAMPBELL Line
"Get it rolling!" No time to waste. ★ ★ Tow chains are there on every truck to keep 'em rolling. ★ ★ International Chain is doing many tough war jobs. ★ ★ International makes chain for every essential need — industrial, marine, farm, or tire. We are prepared to counsel with your engineers on jobs involving unusual chain problems and cordially invite your inquiry.
International Chain and Mfg. Co., York, Penna.
INTERNATIONAL CHAIN

WHEN THEY HIT IT "ON THE NOSE"

It's Precision!

Not that precision is anything new to the R. C. Allen organization. That precise craftsmanship which is now applied to making intricate aircraft instruments has always been a prime reason for the superior performance of R. C. Allen Business Machines.

R.C.Allen

AVAILABLE NOW

THE R. C. ALLEN 3699

CAPACITY $10,000,000.00

9 Columns Direct Subtraction Hand Operated

A fast and accurate adding machine incorporating such Allen safety factors as Visible Dials, Automatic Clear Signal and Red Print Subtraction. May be purchased on WPB 1668 or government orders. Also available: 8 and 10 column models, hand operated.

Keep Your R. C. Allen Machine in Good Condition

Have it serviced regularly by an R. C. Allen factory expert. Look for his name in your classified 'phone book, or write us.

R.C.Allen Business Machines

ALLEN CALCULATORS, INC.
670 FRONT AVE. N. W. GRAND RAPIDS, MICH.

Makers of World Renowned Business Machines

10-Key Calculators • Portable and Standard Adding Machines • Bookkeeping Machines • Cash Registers • Statement Machines • All-Purpose Office Machines, Electric or Hand Operated

vanized sheets, tin and terneplate, and fence posts. Hereafter, a warehouse may, without receiving allotments, fill orders calling for delivery to one customer during any calendar quarter of not more than ten tons of carbon steel and 1,000 lb. of stainless steel for use in the products mentioned. Previously, such delivery was limited to 2,000 lb. of carbon steel and 100 lb. of stainless steel. (CMP Regulation 4, as amended.)

Print Papers

A further cut of 5% has been made in the use of paper for commercial printing purposes in the fourth quarter of 1943. This brings the total cut in such paper to 15% below the use during the base-period year (1941). Printers who do less than $1,250 worth of business per quarter, or who use less than 1¼ tons of paper per quarter, are exempt. (Order L-241, as amended.)

Sugar

A holiday season sugar bonus for industrial users has been announced by OPA, amounting to 10% of the 1941 sugar base for the November-December allotment period. This bonus brings the quota for that period up to 90% of the base. Makers of jams, jellies, and fruit spreads do not come under this allowance, since they have already been provided for.

Cast Iron Ware

Increases varying from 25% to 110% of production during the year ended June 30, 1941, have been permitted in the output of cast iron ware, by an action affecting skillets, kettles, dutch ovens, and flat irons for household, commercial, and government use. Greatest permitted increase is in sad irons or flat irons (from 50% to 160% of base period production); next greatest increase is in skillets (from 50% to 150%). The only decrease is in muffin and bread stick pans, reduced from 50% to 25%. (Order L-30-c, as amended.)

Aluminum Scrap

Aluminum residues such as skimmings, drosses, fines, grindings, sawings, and buffings containing less than 30% metallic aluminum have been removed from the definition of aluminum scrap by a WPB action that releases persons who, in any one plant, generate less than 1,000 lb. per month of aluminum scrap from the obligation of segregating such scrap. (Order M-1-d, as amended.)

Glass Container Pickups

The Office of Defense Transportation has ruled that the pickup of empty bottles by dealers' trucks for re-use is not prohibited by delivery limitations, so long as no additional mileage is required. Pickups from a designated central collection point are limited by restrictions on special deliveries and on daily deliveries to any one point.

Other Priority Actions

Consumers of glycerin who receive it by tank car may have 5% in excess of the quantity allocated if it is necessary to complete a practical shipping unit, according to

LIGHTWEIGHT TONGS

Alloy aluminum tongs (above) are placing forged steel ones for the h dling of hot rods during rolling op tions at Reynolds Metals' plant Louisville, Ky. Hand forged in t plant's blacksmith shop, the a minum tongs are more expensive th ones made of steel but are easier handle. And because less metal heres to them during rolling op tions, their use makes possible t fabrication of better quality mater

Food Distribution Order 34, as amend which permits use of glycerin for aircraft icing fluids. . . . Revisions in Supp mentary Order 3 to Food Production Or 14 permit dealers to obtain 40 milk c at one time for resale to farmers on purch certificates, and allow farmers to buy t cans per calendar quarter, upon simple pr entation of a form statement. . . . P **fabricated pipe**, which is used in shipbui ing, in the production of high-octane ga line, and in the synthetic rubber progra has been designated an unclassified produ subject to General Scheduling Order M-2 under Table 14.

Other Price Actions

To assure continued production of ph **phorus** for the Chemical Warfare Service the face of seasonal high-cost factors, ma mum prices of phosphorus have been rais during the current quarter (Amendment 3 Revised Supplementary Regulation 1 . . . All manufacture of vitrified cl **sewer pipe** and allied products has be brought under a single price regulation (R vised Regulation 206), which supplan Regulation 206 and Regulation 188 f most grades, and continues to use the perio Oct. 1-15, 1941, as the base for each ar of the country. . . . Increases of $1 $10 per 1,000 bd. ft. have been granted producers' ceilings for standard grades **hardwood lumber** in the South Centra region, according to OPA Amendment Regulation 155.

"Let 'Em Eat Cake"—Longer!

How Synergism will do a job for the small family*

Many an everyday—and many a wartime problem in American industry has been solved by synergistic thinking which produced a result beyond all expectations. Many more are getting synergistic treatment from companies cooperating to get better results for their production.

Here is a problem for which every small family would like a solution.

EXTENDING the time elapsing before bread and cake go stale . . . a synergistic approach may bring the answer.

Bread and cake go stale for two reasons—drying out and changes in the starch. Staleness has been retarded by better wrapping, more frequent deliveries and various production formulas. But not yet has the small family been able to eat fast enough to banish stale bread. Keeping bread and cake fresh longer is a question for a synergistic answer.

And here is one approach to a synergistic answer. Atlas chemists originated Arlex which can be used as a stabilizer of freshness in many fields. The addition of Arlex (a new Atlas sorbitol product) would enable bread and cake to retain freshness to taste and touch, with a softer and more plastic crust and crumb . . . because Arlex aids retention of moisture content. A cake containing sufficient Arlex will be as fresh three days later as the same cake without Arlex would be twenty-four hours later.

When bakers and Atlas men can get together again, synergism may produce other answers highly interesting to the small family. Perhaps, when peace comes, a re-examination of Arlex in bakery goods may be in order.

Within the scope of its chemical production, Atlas is practising synergism with some highly successful results. This is the opportunity to add another success to the list.

*SYNERGISM—*a growing habit in American industry. Men bring problems and ideas together so that minds "click" to produce a result that is far greater than the sum of the ideas expressed—making 2 plus 2 equal 5, so to speak.*

Arlex: Reg. U. S. Pat. Off

ATLAS POWDER COMPANY
WILMINGTON 99, DELAWARE
Offices in Principal Cities

Industrial Explosives • Industrial Finishes • Coated Fabrics • Acids
Activated Carbons • Industrial Chemicals • Ordnance Materiel

Copyright 1943, Atlas Powder Company

MARKETING

A Costly Record

Cigarette output tops all previous marks, but penalty is deep draft on leaf inventories; farm controls blamed.

Cigarette production for domestic consumption should approximate 255 billion cigarettes this year, compared with 235.8 billion last year. In addition to the tax-paid cigarettes moving into domestic consumption, it is reliably estimated that 35 billion American cigarettes will be shipped tax-free this year to our own and Allied military forces across the seas against 18 billion last year.

• **Growth of 14.3% in Year**—On these estimates, the industry will roll out this year roughly 290 billion cigarettes for domestic and foreign consumption, a gain of 36.2 billion or 14.3% from 1942's total of 253.8 billion. And by way of comparison with the last war, production for 1916 and 1919 was 25 billion and 53 billion, respectively.

Although the industry is concerned over the recent proposal of Secretary of the Treasury Henry Morgenthau to increase the excise tax on cigarettes from $3.50 to $5 a thousand, as well as the reluctance of the Office of Price Administration to lift the price ceiling on their product in the face of increasing operating costs, the No. 1 problem of manufacturers is the shortage of leaf tobacco. Recurrent rumors that the industry is rapidly running out, along with the threat of higher taxes, has provoked a veritable run on manufacturers.

• **Short-Lived Shortage?**—In order to insure freshness of their product and to prevent overstocking in the trade, manufacturers are allocating shipments to their dealers on a basis of orders placed prior to this buyers' rush. In the meantime, consumers are also reputed to have stocked up. Consequence is a current shortage. But, after the industry gets over its seasonal production hump next month, this condition is expected to be largely relieved.

Enforced rationing of cigarettes to the trade, however, may replace next year the present informal allocation of orders. This extremity is regarded as inevitable by the industry unless the government lifts all restrictions on tobacco planting.

• **WFA Boosts Acreage**—Conflicting statements on the seriousness of the tobacco shortage have been issued by the various government agencies within the fortnight. Only this week the War Food Administration, now in control of this commodity, moved to allay fears of cigarette rationing, announcing a 10% increase in 1944 acreage allocated to both flue-cured and burley tobacco. Assuming a good growing season, such an increase in plantings should help prevent a deepening crisis.

Major tobacco companies usually carry an inventory equivalent to 2½ [illegible] years' needs. Leaf must be aged, [illegible] course, but more important are [illegible] facts that the companies thus avert [illegible] their prices, assure uniformity of [illegible] types from various crops, and guard [illegible] against crop failure. (In an emergency [illegible] experts will tell you, the autumn [illegible] and spring sweat would ready leaf for [illegible] the cigarette machines within a year [illegible] without material change in smoking [illegible] qualities.)

• **Depletion of Inventories**—Stocks of [illegible] leaf on hand, however, are way below

How the Cigarette Brands Stand

The veil of secrecy, traditionally thrown around production figures of the larger cigarette companies, was lifted through the 1939 antitrust trial in Lexington, Ky., but recent figures on competitive standing are as closely guarded as ever. Revenue collections from the various federal districts are the most dependable medium for breaking down cigarette output when due allowance is made for intermingling of plant facilities and other variables.

Such figures, checked and cross-checked through the various channels of the trade, are naturally not official. Yet they are believed to be pretty close to actual output by leading brands and by companies. (The 10¢ brands, pinched by the high price of tobacco and other increased costs, have received but slight price aid from OPA and make relatively the poorest showings; most of the other brands, although they have been permitted no price increases under OPA, have gained almost without exception.)

STAMPED CIGARETTE PRODUCTION BY BRANDS

(Billions)

First six months	1943	1942	Change
Lucky Strike (American Tobacco)	32.0	27.0	+18.5%
Camel (R. J. Reynolds Tobacco)	27.0	25.0	+ 8.0%
Chesterfield (Liggett & Myers)	19.5	19.0	+ 3.0%
Philip Morris	12.0	10.0	+20.0%
Raleigh (Brown & Williamson)	6.5	5.5	+18.2%
Old Gold (P. Lorillard)	5.5	4.5	+22.2%
Pall Mall (C) (American Cigarette & Cigar)	3.0	2.5	+20.0%
Kool (B) (Brown & Williamson)	2.8	2.4	+16.7%
Marvel (C) (Stephano Brothers)	1.9	2.3	—17.4%
Wings (C) (Brown & Williamson)	1.5	1.7	—11.8%
Herbert Tareyton (American Tobacco)	1.5	1.4	+ 7.2%
Avalon (A) (Brown & Williamson)	1.3	1.5	—13.3%
20-Grand (A) (Axton-Fisher)	.7	1.2	—41.7%
Domino (A) (Larus Bros.)	.8	.8	.....
Regents (C) (Riggio Tobacco Co.)	.5	.5	.....
Spuds (B) (Axton-Fisher)	.4	.3	+33.0%
Paul Jones (A) (Philip Morris)	.1	.2	—50.0%
Miscellaneous brands	.9	3.1	.....
Total tax-paid output	117.9	108.9	+ 8.2%

(A) Original 10¢ brands; (B) mentholated cigarettes; (C) long cigarettes.

TOTAL CIGARETTE PRODUCTION BY COMPANIES

(Billions)

First six months	1943	1942	Change
American Tobacco	39.9	33.0	+20.9%
R. J. Reynolds	31.0	26.0	+19.2%
Liggett & Myers	21.7	20.4	+ 6.4%
Brown & Williamson	11.5	12.1	— 4.9%
P. Lorillard	7.5	7.0	+ 7.1%
Stephano Brothers	1.9	2.3	—17.4%
Axton-Fisher Tobacco	2.0	1.8	+11.1%
Philip Morris	13.8	11.0	+25.4%

American Tobacco Company and its subsidiary, American Cigarette & Cigar Company, with its various brands, accounted for 30.5% of the industry's total production; R. J. Reynolds (Camel) for 23.7%; Liggett & Myers (Chesterfield and two minor brands) for 16.6%; Philip Morris for 10.6%; Brown & Williamson for 8.8%; and P. Lorillard for 5.7%.

Multilith gets it from factory to fighter... FASTER

Remember moving day with all the worry and confusion of moving a single van load of household goods 'round the corner? Imagine what a colossal moving job Uncle Sam faces *every* day—thousands upon thousands of articles—all varieties, shapes and sizes—to be gathered into vast depots and then sped to fighting men scattered all over the world.

Think of the coordinating, timing, and record-keeping involved. One detail alone—the shipping documents that must accompany each shipment, customarily required writing up and running copies of ten different forms.

Working with U. S. Quartermaster Corps and Army Service Forces, Multigraph* men developed a method of using pre-printed master sheets called Systemats*. The Systemat carries "constant" data so that only variable transportation information need be written in by hand or typewriter. Then the Systemats are put on a Multilith* machine to automatically reproduce the many accurate *and permanent* copies that are needed.

By this method a single document replaced the 10 forms formerly used. Time is saved, manpower released, errors eliminated, identification of items made easy, and supplies get to our fighting men more quickly.

Multilith Systemats are being used in innumerable new ways to streamline paper work of war. Systemat is a word new to American business and industry. Remember it! Systemats can save time, money, and manpower in every department from factory tool room right up to president's office. Let us show you. Write Addressograph-Multigraph Corporation, Cleveland—and in principal cities of the world.

*T. M. Reg. U. S. Pat. Off.

Multigraph

TRADE-MARK REG. U.S. PAT. OFF.

SIMPLIFIED BUSINESS METHODS

FAST!
EASY!
ACCURATE!

WHY OFFICE MANAGERS CHOOSE G/W WOOD FILES AND "SAFEGUARD" INDEX SYSTEMS

Here's real "office teamwork" . . . wood files that work smoothly, quietly, at the touch of a hand—and the famous Safeguard system that gives the ultimate in filing speed, accuracy and simplicity. Perfected for you by the world's largest manufacturers of wood business and filing equipment. See them now at your local Globe-Wernicke dealer or write direct to us for more information.

THE GLOBE-WERNICKE CO.
Cincinnati, Ohio

Globe-Wernicke

SUBSTITUTE GIRL

Clad head-to-toe in plastic and other synthetic fabrics, a Broadway show girl wears approximately the sum total of fashion's wartime experience with substitutes for scarce materials. The rain coat (left) worn by the model is made of a new du Pont plastic which had its first public showing last week at the New York Times' style show. Shedding the coat, she next modeled a "shocking pink" two-piece dress (center) made of Aralac—National Dairy's casein textile (BW—Nov.1 '41,p38). Her matching purse and shoes are woven of another du Pont plastic yarn called Plexon. To wind up her "strip tease," the dancer bows out in an all-in-one black foundation garment (right) which is slated to go on the market Nov. 1. Made of a new fabric called Flexchine, it is claimed to be more elastic and absorbent than scarce nylon. Its base is du Pont's cordura rayon, which now is being extensively used in the manufacture of heavy-duty tires.

desired relationships to present demand, with manufacturers strictly uncomfortable about dwindling inventories.

Total use of flue-cured and burley in cigarettes and in smoking and chewing tobaccos in 1941, 1942, and 1943 is put at 3,034,700,000 lb. (farm weight); leaf available from the crops of those three years is figured at 2,630,300,000 lb. That obviously means a draft of more than 400,000,000 lb. on inventories.

• **23-Month Supply**—Flue-cured tobacco was allotted this year in expectation of an 800,000,000-lb. crop, but the harvest was only 777,000,000 and some 336,000,000 lb. of the total is earmarked for export. The tobacco trade figures that, when it has taken supplies from the 1943 harvest into its warehouses, it will have on hand enough for the manufacture of only about 620,000,000 cigarettes or a 23-month supply at the present rate of domestic consumption and export.

Strange as it may seem, some buyers recently had been dropping out of Carolina and Virginia markets in spite of the fact that they all wanted le Trouble was that they were afraid th had bought quotas based on the lo ered crop estimate. WFA had to ca a hurried conference in Richmond an tell them to go on buying on the bas of the original 800,000,000 figure. A a result, markets that had been closin because of declining prices reopened a quotations up from $1 to $7 a cwt.

As things stand, cigarette manufac turers fear they will be in a tight inven tory position for years to come. The not only count on continued very larg demand as long as the war lasts, bu are confident of big foreign takin after the peace from a tobacco-starve world.

• **Argument on Controls**—Restriction on tobacco acreage are a very sore point WFA maintains that the acres and th hands to till them can't be allotted to to bacco without robbing the country o vital war foods. The cigarette make laugh at this argument, declaring sma farmers who never have grown any cas crop but tobacco could end all shortage if they were allowed to produce witho any federal controls.

HAROLD VAN DOREN
Industrial Designer

A truck gets its "wings"

That shorter route to India which Columbus sought is making news again. Only this time it includes India . . . and . . . all points east and west.

Columbus' America is ready right now to begin building super cargo-planes. Here, at the request of Durez Plastics, Donald Dailey of Harold Van Doren and Associates releases his visualization of such a freight-plane . . .

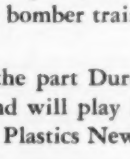
"In working up this design, we have incorporated into the belly of the plane two truck-trailers such as you see on the road every day. These units would be interchangeable to permit freight to be loaded or unloaded at warehouses, hauled to airports, and picked up by planes to be delivered at other national or international points without the waste involved in frequent rehandling of the merchandise itself.

"To get these trailers *light* enough for flying purposes but *strong* enough for freight service, they would be constructed of Durez resin-bonded plywood. Those Durez resins, you know, glue thin wood veneers together into plywood, bonding them with such strength that, pound for pound, they are stronger than metal. Further, Durez resins give plywood other superior characteristics: it resists corrosion and is even fire-retardent."

Call this a *future* plane, if you will. But it is a plane with an immediate future. It may even yet flash down the runways in time to transport equipment to our men on the fighting fronts—another new war-use for Durez resin-bonded plywoods. For plywood, too, has its share in shaping America's arsenal. It builds barracks, airports, "PT" mosquito boats, ponton boats, fighter and bomber training-planes.

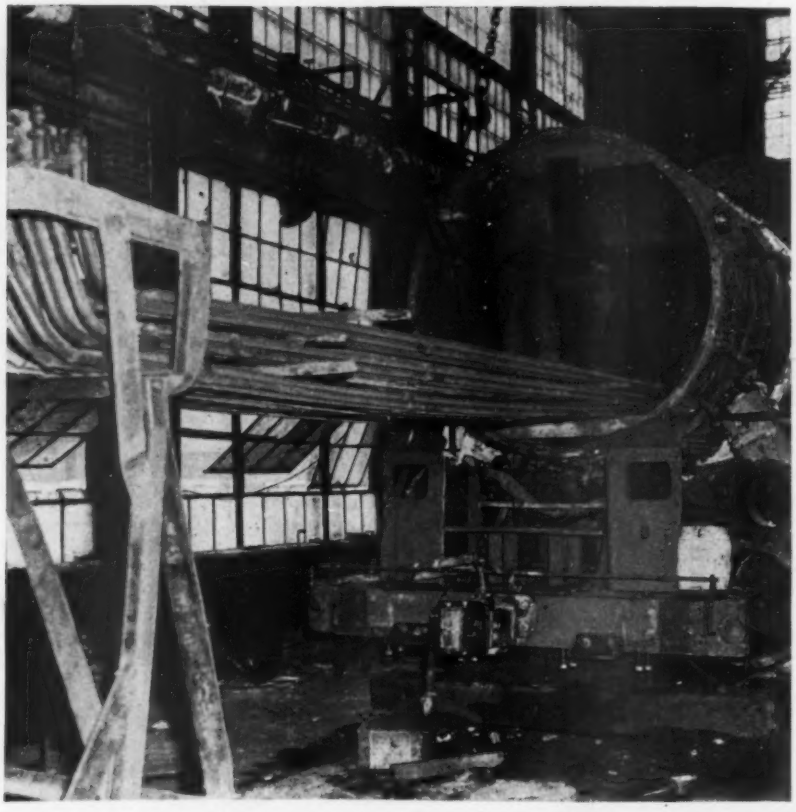
Would you like to learn more about the part Durez plastics and resins are playing in war—and will play in peace? Just write for *your* copy of Durez Plastics News.

DUREZ PLASTICS & CHEMICALS, INC.,
551 Walck Road, North Tonawanda, N. Y.



DUREZ

PLASTICS THAT FIT THE JOB



Putting Locomotives in Shape for the Draft

THESE are days when locomotives, too, have to be in good physical shape to run the "distance" in record time.

Erie engines on daily runs get daily inspections and minor adjustments to keep them fit. Once a month they get a "boiler wash" and running repairs. After many thousands of miles, they are given a general overhauling.

And Erie mechanics on the "firing line" adjusting, repairing, and overhauling locomotives to keep them rolling at maximum efficiency are doing their part in proving "It's the men who make the Erie".

By keeping locomotives in the best possible condition these men are helping Erie maintain good service in war as in peace. It is further assurance of fast, safe, dependable transportation when you use the Erie.

ERIE

23,578 FREIGHT TRAINS DAILY *

1,408,964 FREIGHT CARS DAILY *

25 MILLION 25,000,000 NET TONS DAILY *

AMERICAN RAILROADS AT WAR

THE RAILROAD OF HELPFUL SERVICE

Canner Conflict

Having tried both formu pricing and flat-pricing, OP now struggles with plan 1944 pack. Industry is divide

Flat-pricing vs. formula-pric that's the focus of a behind-the-sc Office of Price Administration con versy which must be settled bef it will be possible to work out the tails of the pricing program on the 19 food pack.

• **How They Differ**—Flat-pricing me a uniform ceiling price on all goods a given commodity line of a given and grade throughout a specified ar Formula-pricing is the method wh OPA followed in pricing the 1942 pa Each canner computed his own pri on each brand by using his 1941 sell prices as a base and adding amou for increased raw material and la costs.

The formula assured the canner tually the same margin in 1942 as 1941, a relatively good year in whi canners were generally satisfied. But t Leon Henderson regime in OPA w not satisfied. The formula operati was regarded as simply a stopg method of providing some relief f canned foods from the stringencies the General Maximum Price Regu tion until something more permane could be worked out. Major objecti to formula prices was that each cann ended up with his own set of pri which, consequently, made enforceme of ceilings difficult if not altogeth impossible.

• **Enter Flat-Pricing**—The unfortuna experience with formula-pricing l OPA late in 1942 to announce it wou adopt flat-pricing on the 1943 pac On tomatoes, for example, it work this way: OPA divided the country into major tomato-packing regions; schedule was issued providing the sp cific price which each canner in ea area would be permitted to charge f any given grade and container size canned tomatoes.

The program ran into immedia opposition from the canning industr primarily because it shifted the basis pricing from brands to grades and pr vided for grade labels on the can. Aft a battle on Capitol Hill, the grad labeling issue was compromised by th invoice-grading device (grades were n moved from the can but left on trad invoices).

• **Limited Application**—But the fla pricing method proved to have its a ministrative difficulties, too, and f that reason it was applied only canned peas, corn, tomatoes, and bea —the so-called major canned vegetabl

TAMIN WOES

o heads of Wisconsin Alumni Re-rch Foundation—L. D. Barnes tt) and G. I. Haight—are still hav- vitamin D trouble. Their first adache came from an appellate rt decision, invalidating the foun- tion's patents on the Steenbock ocess of irradiating vitamin D into ods, drugs, and feeds (BW—Jul.17 p57). Now Assistant Attorney neral Wendell Berge is attacking e foundation's patent controls as nopolistic and extortionate to the ne of more than $8,500,000. Barnes d Haight, who deny everything, uld read in Berge's attack a quick titrust suit when and if the Su- eme Court rules in their favor.

nd to asparagus, spinach, and citrus uits; the balance of the pack was all iced by formula.

Application of the flat-pricing for- ula was complicated not only by the de labeling row but also by the diffi- lty of setting up precise schedules hich would be fair to all producers, d by the problem of providing sub- ies to cover cost increases, both in w materials and in wages.

Nobody Pleased—The handling of e wage advances, after their approval the National War Labor Board, eased no one. OPA had guaranteed nners that prices would cover these creases, but price advances were out- ed by the President's hold-the-line der. After that, Economic Stabiliza- n Director Fred M. Vinson told the ommodity Credit Corp. to compen- te canners for increased costs on the ur major vegetables by payment of bsidies.

An unhappy CCC interpreted Vin- son's directive to mean that no flat subsidy could be granted, but rather that each canner would have to come in at the end of the season and show that he had sustained a loss on his entire pack. CCC would then reimburse him for that part of the loss that could be traced to increased labor costs on the four major vegetables.

• **Drafting 1944 Plan**—In reorganizing OPA on a "business basis," General Manager Chester Bowles selected Carl N. Lovegren, former head of Hunt Brothers Packing Co. and of the powerful Canners League of California, to boss the new OPA processed fruit and vegetable pricing section. Lovegren, long an opponent of flat-pricing, is expected to present Bowles with the draft of a 1944 plan that is based on formula-pricing.

The canning industry's best arguments against flat-pricing were advanced in two well-documented briefs filed with OPA by the California Packing Corp. (Del Monte) and the Minnesota Valley Canning Co. In effect, the briefs argue that flat-pricing is inflationary because it is based on area-wide averages, which permit the low-priced canners to advance prices. The low-priced canners, presumably for this reason, support the flat-pricing program, thus breaking the industry's united front.

• **Margins Dispute**—The briefs also contend that flat-pricing does not comply with the legal requirement of the Emergency Price Control Act that food processors get fair and equitable margins because packers owning nationally known brands are cut down to the average.

As a final touch, the briefs argue that formula-pricing eliminates all use of government standards as well as grade labeling. They question OPA's right to use the old Dept. of Agriculture canned food standards in the light of the so-called Taft amendment restricting the use of government standards. If any grades are going to be used, the argument is that the law compels use of existing commercial standards.

On at least this point, it seemed likely that the big canners would lose out, that OPA would compel use of government grades on flat-priced lines at least—with the grades to be shown on the invoice.

• **Depends on Subsidies**—In addition to the flat-pricing controversy, OPA's 1944 canned food program must await the outcome of the Capitol Hill fight on subsidies. Hence, notwithstanding its desire to get out its 1944 program early enough to avoid the criticisms leveled against this year's pricing operation, OPA probably won't be ready to announce its plans until January when the National Canners Assn. is expected to sponsor another all-industry food processors' war conference which is to be held in Chicago.

WE LOOK ALIKE...

YET I WRITE BIG BOLD HEADLINES

And I Write Space - Saving Footnotes

We are only two of hundreds of different types which all work in the same machine For instance:

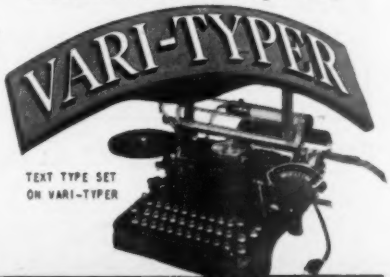
I. WRITE SUB-HEADS
I write text copy
I write italics
I write footnotes
I write Español
I write bills of material

These sample types only hint at the amazing versatility of the *Vari-Typer*. From 100-page books to small office forms — from complicated parts lists to menus — from involved engineering data to church programs — all printed matter can be composed on *Vari-Typer* by any competent typist and the required number of copies reproduced by Offset, Multilith, Mimeograph, or Ditto.

SAVINGS IN TIME AND MATERIALS

Essentially a machine of savings, *Vari-Typer* saves $4000 annually for one firm: 16 carloads of paper for an Air Corps Station; 19,500 hours of draftsmen's lettering time for a shipyard.

Somewhere in your organization paper work can be done more quickly and economically with *Vari-Typer*. On request we'll send complete details. Better still, request a survey and a demonstration. *No obligation.*



RALPH C. COXHEAD CORPORATION
333 SIXTH AVE., NEW YORK 14, N. Y.

Two-Way Stretch

It's coming back, thanks to release of synthetic rubber, in girdles, women's biggest war casualty, but not right away.

Probably the Office of Civilian Requirements could have got its answer from a sample of any three American women. But more impressive was OCR's recent door-to-door survey (BW—Oct.9'43,p76) of some 10,000 consumers which indicafed that women considered the disappearance of the two-way stretch girdle one of the most severe deprivations of war.

Thanks to this survey in which complaints about the shortage of elastic of all kinds loomed high, and thanks to the simultaneous easing of the synthetic rubber supply, the War Production Board has removed restrictions on the use of synthetic in the manufacture of elastic thread (M-124) and on the production of knitted, woven, or braided elastic fabrics (M-174). New supplies of synthetic rubber elastic mean relief for such critical civilian supplies as garters, suspenders, lingerie, and children's clothing, as well as girdles, but foundation garments and hosiery tops (men's and children's) will be taken care of first.

• **Not All-Elastic Yet**—Limitations on manufacture of civilian goods will be relaxed, when production of elastic is well underway—if not before. Meanwhile, processors must stretch the new synthetic as they have their old stocks of natural rubber.

In the corset and brassiere industry, for example, manufacturers will continue to operate under L-90 which in general limits the amount of elastic fabric in one garment to a maximum of 36 sq. in. (BW—Jun.19'43,p91). However, manufacturers expected amendments to L-90 as early as this week.

• **More Stretch Now**—Even without liberalized manufacturing allowances, girdles will be measurably improved. The fact is that manufacturers, who have been operating for two years merely on the rubber stocks they held two years ago, have been putting into corsets and girdles even less than the law allows. New allowances of synthetic will at least assure use of maximum allowances, until WPB modifies L-90 to provide for the return of the all-elastic model.

Most immediate improvement will be the return of elastic garters, which are allowed by L-90 (provided, each garment has only two pairs, and no more than 18 in. of elastic are used).

• **Problem of Odor**—Biggest shadow cast on sales appeal of the new synthetic rubber girdles—when they come—is the rumor that chemists have not been able to remove the odor of the synthetic. The industry, naturally, is distressed by the clear indication that this will become a consumer issue. The smell was never removed from natural rubber either, the trade points out, but ladies didn't buy them by smell—lack of it.

Experts say that they don't exp to muffle the odor of synthetic rub The problem is one that can be sol only at the processor level, before rubber is wrapped with small thr yarn, then woven or knitted into ela fabric.

Basic raw material of the new ela is du Pont's Neoprene. Producers Buna S have been experimenting w it for some time, but so far its prop ties have not been satisfactorily adap to the making of elastic thread. N prene, on the other hand, has b found to have an elasticity of 70 compared to natural rubber's 800% 900%.

Presumably, the elastic yarn will made available to civilian users in limited quantities. Hence the W Production Board has made no allo tions to specific industries. Major thr makers—American Wringer Co., C Manufacturing Co., Easthamp Thread Co., U. S. Rubber Co., F stone, and Filatex Corp.—have been rected to take care of their old custo ers now, take on new business when p duction picks up.

How soon synthetic rubber ela output reaches 700 lb. per month—p war average for natural rubber ela (half of which went into girdles)—pends on the trade's success in iron out processing difficulties still involv in synthetic. Rubber and thread p ducers alike may be handicapped lack of priority status for acquiring ad tional machinery and manpower.

• **Busy on War Business**—Manu turers welcome synthetic rubber to s plement drastically depleted ela stocks, but few of them anticip expanded production, since manu ture of parachutes, gas masks, cam flage nets, and other gear more th fills out their production schedules.

POSTWAR PLUGGING

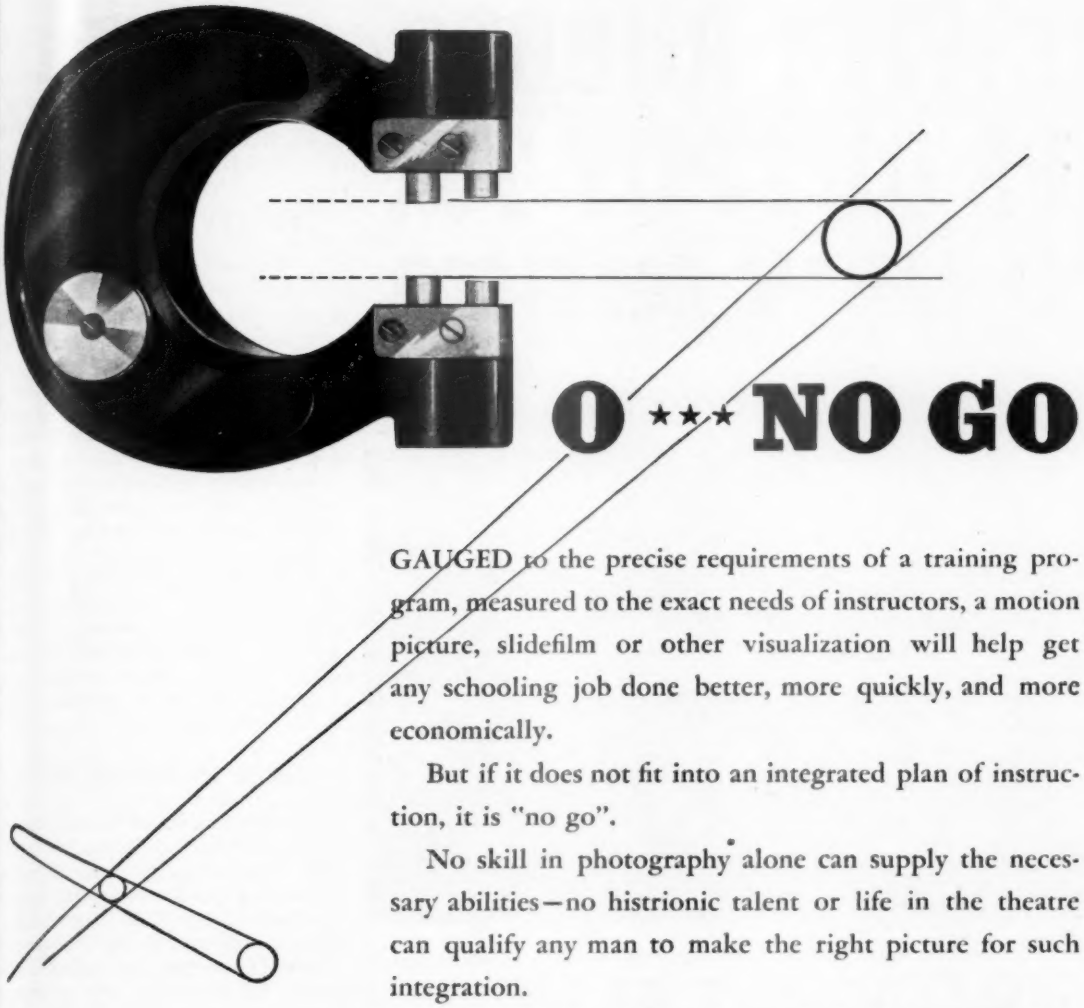
To launch its postwar textiles and open new offices in New York, Atlantic Rayon Corp., Providence, R. I., is displaying its wartime products in a series of lifelike dioramas created by Louis Paul Jonas. One of the exhibits portrays American paratroop landings in North Africa (above) and plugs the firm's production of parachutes. Similar setups depict the South Pacific and Alaskan campaigns. Behind the exhibit in the Empire State Bldg. is Atlantic Rayon's ambition to establish its new name—Textron, Inc.

OPA UPHELD ON RAIL TAX

Agitation for repeal of the transportation tax which was tac onto the 1942 Revenue Act (over str protests from then-Price Administra Leon Henderson) will gain extra m mentum from the U. S. Supre Court's refusal, this week, to review Emergency Court of Appeals decis in a case involving OPA and the U. Gypsum Co.

When the tax was passed, Henders ruled that, for price control purpos it should be treated simply as an crease in transportation costs. Exc in cases of severe squeezes, OPA did allow price increases to cover the tax

U. S. Gypsum was snagged by t interpretation because—like many ot manufacturers—it quotes a flat deliver price in some areas, absorbing freig differentials within an area. OPA ru



GO ★★★ NO GO

GAUGED to the precise requirements of a training program, measured to the exact needs of instructors, a motion picture, slidefilm or other visualization will help get any schooling job done better, more quickly, and more economically.

But if it does not fit into an integrated plan of instruction, it is "no go".

No skill in photography alone can supply the necessary abilities—no histrionic talent or life in the theatre can qualify any man to make the right picture for such integration.

Only years of experience in practical training operations, in class, shop and meeting rooms can protect such visual aid production from the costliness of misfire or scrap.

ARMY (E) NAVY

The JAM HANDY Organization

Visualizations • Educational Sound Pictures • Slide Films • Vocational Training

★NEW YORK	★WASHINGTON, D. C.	★DETROIT	★DAYTON	★CHICAGO	★LOS ANGELES
1775 Broadway	Transportation Building	2900 East Grand Boulevard	311 Talbott Building	230 N. Michigan Boulevard	7046 Hollywood Boulevard
COlumbus 5-7144	District 0611	MAdison 2457	ADams 6289	STAte 6758	HEmpstead 5809

HEWITT RUBBER* UPS OUTPUT 75% TO NEW HIGHS

ON VITAL SELF-SEALING FUEL TANKS

It was an urgent demand—self-sealing fuel tanks in greatly increased volume to keep pace with the production of combat planes...

Hewitt, "specialists in rubber," accepted the assignment...went to work with Plocar engineers, "specialists in production."

"Results," states Thomas Robins, Jr., President of the Hewitt Rubber Corporation, "have been exceedingly satisfactory. What seemed the impossible has been accomplished. Production kinks were straightened out, *existing equipment and space* utilized more efficiently; the cost *and delay* of new buildings was avoided. Output reached a level nearly double our best previous record and is still on the upgrade."

Full cooperation—plant engineers with the Plocar staff—contributed in a large measure to this achievement...Similar Plocar assistance is available to plants faced with production problems. Write,

JOHN J. PLOCAR COMPANY
Singer Building, Stamford, Conn. • Tel. Stamford 3-6815
Representatives in principal industrial areas
BUSINESS AND INDUSTRIAL MANAGEMENT CONSULTANTS

* In cooperation with

PLOCAR ENGINEERS

that, by doing this, U. S. Gypsum re pays freight costs, hence must ab the transportation tax instead of pas it on to customers. In upholding OPA ruling, the emergency court approved Henderson's decision that tax should be treated as an increas transportation costs.

DELIVERY BY HELICOPTER

William Filene's Sons Co., Bos department store, has filed a req with the Civil Aeronautics Board establish helicopter and similar air s ice to leading New England cities.

Filene's, which operates branch st in many of these cities, points out such an arrangement would offer miracles in distribution. A cargo a ing in San Francisco on Saturday, for ample, could be air-freighted to Bos thence to other New England cities delivery Monday.

Six routes covering from four to teen cities each were outlined in File petition which proposed operating "h copters or such other aircraft as may capable of landing on roofs of the ap cant's buildings or in areas as smal 500 feet square."

KFEL SUES DENVER POST

Radio Station KFEL of Denver, tual's Denver outlet, late last week s the Denver Post in a state district co charging that the newspaper has "bla listed and boycotted" the station's grams, and asking that an injunction issued under the Colorado Unfair P tice Act to compel the newspaper print programs of all Denver radio tions or none.

No damages are asked for alleged jury due to the newspaper's omiss of KFEL programs, but the stat charges that for two months (Feb. Mar. 31, 1943), it bought listing in Post's Sunday radio page—where ot programs are printed free—and that newspaper charged $5 a blackface or a total of $798.55, for which tr damage of $2,395 is asked under act.

KFEL also charges that the Po program listings are in such form as give the public the impression t KFEL's network competitors—KOA NBC, KVOD of Blue, and KLZ Columbia—comprise all the Denver tions. It alleges "fraud and malice" charges that one Post motive was protect its own sponsored newsc from the competition of the KF newscast.

The feud between KFEL and manager and principal owner, G O'Fallon, and the Post has been l and bitter, with KFEL dealing m freely in "inside news" about the P on its newscasts than is the practice any other Denver newscast.

Laundry Relief

Industry, dissatisfied with new OPA formula for adjusting prices, will take it until a better one can be evolved.

If the regional conventions of the American Institute of Laundering in Chicago and New York next week react to the latest government formula for relieving laundries' price distress (BW—Oct.16'43,p34) as the Kansas City meeting reacted last week, OPA's ears will burn.

• **Basically Unsound**—Laundry owners in the Kansas City region made it clear to members of the OPA industry advisory committee who met with them that they believe the formula not only too complicated, but basically unsound.

The formula, which uses 1941 as a base, affords relief for any laundry which has operated at a loss for at least three consecutive months.

• **There's a Catch**—Any laundry in that category which, during 1941, made a net profit of 8% or more of gross sales may be authorized to increase prices a flat percentage of the total of each list, sufficient to assure a return of 8%. But the catch is that OPA's notion of net profit includes executive salaries, which average about 5% of gross sales. Thus actual profit will be held to about 3%.

The laundry that earned less than 8% in 1941—which does not, in other words, boast a good money-making record—may be permitted to increase prices sufficiently to guarantee a return of at least 4%. For small laundries with annual sales of less than $100,000, an additional profit of $2,000 may be allowed.

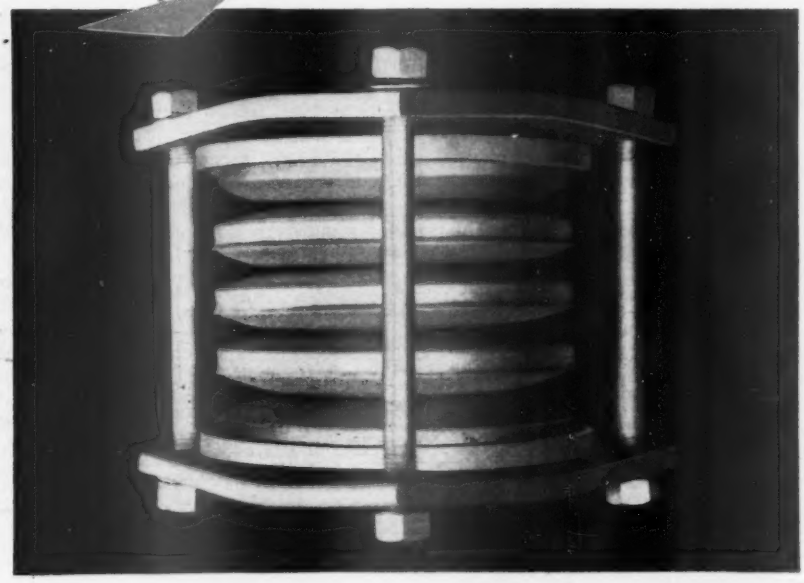
• **Approved by Vinson**—Members of the advisory committee told the Kansas City laundry owners that the formula was approved by Economic Stabilization Director Fred M. Vinson who, if the committee rejected it, might not have time to study any substitute plan for many months.

Since the principal complaint of laundry owners has been the government's procrastination on their applications for price relief, and the new plan offers a possibility that future applications can be handled in three weeks, the committee advised OPA to put the plan into effect with minor changes.

• **Substitute Plan**—But the industry has a substitute plan up its sleeve. This plan, which likely will be proposed to OPA, would allow a return in proportion to payroll costs (excluding executive salaries), based on the ratio which prevailed during a specified base period. Payroll costs, always more than 50% of gross income, now run from 60% to 65% in many cases.

THIS **Cook** "Spring-life" BELLOWS

WITHSTOOD 34,500 LBS. OF INTERNAL PRESSURE



Impossible *You Say!*

READ THE DETAILS

Cook Electric's oft-repeated success in accomplishing the seemingly impossible is continually leading to new challenges. In this case the demand was for a bellows that could stand up under tremendous internal pressure.

Although constructed of 1/16" thick alloyed steel, this Cook "Spring-life" Bellows, shown in the photograph above, took 34,500 pounds of internal pressure . . . over 17 tons . . . enough to buckle two end plates and two retainer plates, each of ½" thick high carbon steel. Not only that . . . the Cook "Spring-life" Bellows returned to its original free length when pressure was removed, without a sign of rupture from this terrific pressure.

This startling proof of the Cook "Spring-life" principle was made with a bellows of 1/16" thick alloyed steel with an 8" O.D., 8" in height and capable of normal expansion to 10". It will withstand temperatures up to 1200 degrees F.

This is another outstanding Cook accomplishment in bellows design and construction . . . another proof of Cook's capacity for the impossible.

COOK ELECTRIC Company

2700 SOUTHPORT AVENUE • CHICAGO (14) ILLINOIS

Radio Revolution

It won't happen overnight, but postwar improvements in both transmission and reception hold promise for the listener.

Almost no other technical development of this war has excited so much speculation about its postwar applications as the electronic devices which enable gun crews to detect and destroy enemy ships and make it possible for flying personnel to transmit to headquarters maps and descriptive material about enemy terrain in a matter of seconds.

• **In All Departments**—This speculation envisions a revolution in all departments of radio—in television, frequency modulation, and facsimile reproduction.

Such a revolution may be in the cards, but it will not happen overnight, warns the November issue of McGraw-Hill's Electronics in a down-to-earth report on the postwar radio program. Says Electronics:

"By its very nature such a program cannot take full cognizance of the range of technical developments which the war has made possible. Even if this were possible, it would still take time, money, equipment, and personnel to establish new stations, new services. As a result civilian radio communications services immediately following the war are bound to be pretty much along the same pattern as those currently in use."

• **Highest Standard**—Civilian radio equipment does stand to profit, however, from manufacturers' experience in building not to a price, but to the highest possible standard. Military specifications have forced them to install temperature, humidity, and other test equipment. If the industry carries the concept of quality over into peacetime production, most of the old price-slashing and dumping of excess production may be avoided.

Nearest to an accomplishment of the postwar revolution, of course, is frequency modulation, or F-M, which was established commercially before the war. The Federal Communications Commission had set up complete standards for F-M broadcasting, and experience indicates that virtually all F-M needs for commercial success is the improved signal strength necessary to expand service areas, plus some alteration in channel assignments by the FCC.

• **Complementary Service**—This is not to say that F-M will replace the amplitude-modulation system on which the broadcasting business now generally functions. Radio is important to people living in isolated areas; these people cannot adequately be served by F-M stations in the big metropolitan centers for their area of coverage is roughly limited by the horizon.

Since the existing A-M stations in the 500-to-1,600-kilocycle band serve some 60,000,000 receivers, it is likely that the A-M service will be retained. A double broadcasting system, with receivers equipped to receive both A-M and F-M, is likely to be a continuing feature of the postwar scene.

Significantly, General Electric, in surveying its 277,000 stockholders this month concerning what type of radio receiver they prefer to buy after the war, includes F-M sets but omits television and facsimile.

• **Television's Drawback**—Although television experience is more limited than F-M, engineers are convinced that black and white television is not only possible but promising, commercially (BW—Aug.29'43,p104). Color television, although operative, has not been highly developed.

The biggest technical stumbling block to television is the split-channel frequency assigned to television when the FCC adopted regulations making commercial television possible. The divided channels (the first from 50 to 100 megacycles and the second from 150 to 200 megacycles) complicate engineering design and increase manufacturing costs. But since the FCC has reallocation of the entire spectrum on its postwar agenda, this assignment is bound to come up for reconsideration.

• **Wide Band Required**—Meanwhile, engineers are arguing the advantages of a low-frequency against a high-frequency channel. Lower frequencies are freer from "ghosts and undesirable reflections" than higher frequencies; but because modulation of television signals requires a wide band, there is much to be said for higher carrier frequencies which offer room for more stations.

• **Reproduction Advancing**—Because facsimile reproduction never approached commercialization in prewar days, it is calculated to be the last of the radio developments to become standard American home equipment.

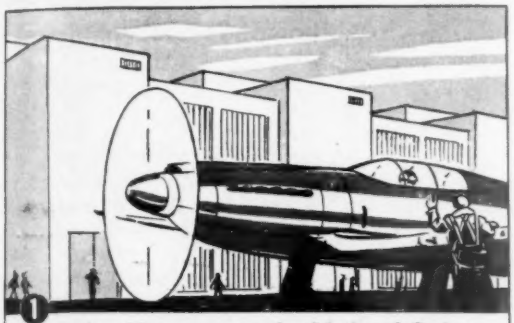
Technically, however, the capacity of modern facsimile systems is far beyond anything promoted in the prewar period. Now, black and white copy can be delivered at the rate of 24 sq. in. a minute by a simple and inexpensive receiver located anywhere within the normal service area of an F-M broadcasting station.

DRINKS BY BARGE

Use of barges and waterways instead of trucks and highways to service distributors in New York's metropolitan area has solved a knotty delivery problem for Pepsi-Cola's Long Island bottling plant (below). Six barges and coal burning tugs were put into service four months ago after truck mileage cuts were ordered by the Office of Defense Transportation. Hauling about 8,000 cases each, the barges, loaded by gravity conveyors (left), are towed to key waterfront points where distributors pick up allotments. Barges have cut road mileage 25%.

How to quiet an Airplane Motor or a Bowl of Soup!

GOLD BOND ACOUSTICAL MATERIALS FOR QUIETER LIVING TOMORROW



1

Today, like so many other National Gypsum products, Gold Bond acoustical materials are war workers. Huge quantities are being used to deaden the ear-splitting roar of airplane engines during testing, to increase working efficiency in noisy war plants and offices. But from these developments will come quieter living.

2

For example, Mother and Dad will love the idea of Gold Bond sound conditioning for the recreation room, nursery and the boys' room. Sounds too good to be true, but it's sure to come. The best part of it is—these noise reducing walls and ceilings will be within the budget of even low-cost homes.

3

You'll notice a big difference after the war. Wherever noise reduction is desirable—in restaurants, offices, corridors, schools, hospitals, even in new and modernized plants—Gold Bond acoustical materials will quiet nerve-wracking noise almost to a whisper.

4

Following victory, look for the biggest building boom in history! And National Gypsum will be ready, for its 21 big plants can be reconverted in a matter of hours to the manufacture of peacetime products. In the meantime, many of the more than 150 Gold Bond items are still available for necessary civilian building and repairs. See your local Gold Bond dealer! National Gypsum Company, Buffalo, N. Y.

WARTIME PRODUCTS OF NATIONAL GYPSUM: METAL LANDING MATS FOR PORTABLE AIRFIELDS; INSULATION TO KEEP OVERSEAS FOOD SHIPMENTS FRESH; GOLD BOND GYPSUM BUILDING BOARDS TO REPLACE SCARCE LUMBER; METAL CASTING PLASTER TO ELIMINATE FINISH MACHINING FROM DELICATE NON-FERROUS CASTINGS; LIME FOR THE MANUFACTURE OF STEEL AND MAGNESIUM.

Radio Revolution

It won't happen overnight, but postwar improvements in both transmission and reception hold promise for the listener.

Almost no other technical development of this war has excited so much speculation about its postwar applications as the electronic devices which enable gun crews to detect and destroy enemy ships and make it possible for flying personnel to transmit to headquarters maps and descriptive material about enemy terrain in a matter of seconds.

• **In All Departments**—This speculation envisions a revolution in all departments of radio—in television, frequency modulation, and facsimile reproduction.

Such a revolution may be in the cards, but it will not happen overnight, warns the November issue of McGraw-Hill's Electronics in a down-to-earth report on the postwar radio program. Says Electronics:

"By its very nature such a program cannot take full cognizance of the range of technical developments which the war has made possible. Even if this were possible, it would still take time, money, equipment, and personnel to establish new stations, new services. As a result civilian radio communications services immediately following the war are bound to be pretty much along the same pattern as those currently in use."

• **Highest Standard**—Civilian radio equipment does stand to profit, however, from manufacturers' experience in building not to a price, but to the highest possible standard. Military specifications have forced them to install temperature, humidity, and other test equipment. If the industry carries the concept of quality over into peacetime production, most of the old price-slashing and dumping of excess production may be avoided.

Nearest to an accomplishment of the postwar revolution, of course, is frequency modulation, or F-M, which was established commercially before the war. The Federal Communications Commission had set up complete standards for F-M broadcasting, and experience indicates that virtually all F-M needs for commercial success is the improved signal strength necessary to expand service areas, plus some alteration in channel assignments by the FCC.

• **Complementary Service**—This is not to say that F-M will replace the amplitude-modulation system on which the broadcasting business now generally functions. Radio is important to people living in isolated areas; these people cannot adequately be served by F-M stations in the big metropolitan centers for their area of coverage is roughly limited by the horizon.

Since the existing A-M stations in the 500-to-1,600-kilocycle band serve some 60,000,000 receivers, it is likely that the A-M service will be retained. A double broadcasting system, with receivers equipped to receive both A-M and F-M, is likely to be a continuing feature of the postwar scene.

Significantly, General Electric, in surveying its 277,000 stockholders this month concerning what type of radio receiver they prefer to buy after the war, includes F-M sets but omits television and facsimile.

• **Television's Drawback**—Although television experience is more limited than F-M, engineers are convinced that black and white television is not only possible but promising, commercially (BW—Aug.29'43,p104). Color television, although operative, has not been so highly developed.

The biggest technical stumbling block to television is the split-channel frequency assigned to television when the FCC adopted regulations making commercial television possible. The divided channels (the first from 50 to 100 megacycles and the second from 150 to 200 megacycles) complicate engineering design and increase manufacturing costs. But since the FCC has reallocation of the entire spectrum on its postwar agenda, this assignment is bound to come up for reconsideration.

• **Wide Band Required**—Meanwhile, engineers are arguing the advantages of a low-frequency against a high-frequency channel. Lower frequencies are freer from "ghosts and undesirable reflections" than higher frequencies; but because modulation of television signals requires a wide band, there is much to be said for higher carrier frequencies which offer room for more stations.

• **Reproduction Advancing**—Because facsimile reproduction never approached commercialization in prewar days, it is calculated to be the last of the radio developments to become standard American home equipment.

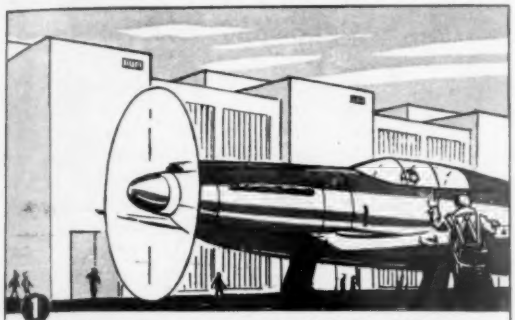
Technically, however, the capacity of modern facsimile systems is far beyond anything promoted in the prewar period. Now, black and white copy can be delivered at the rate of 24 sq. in. a minute by a simple and inexpensive receiver located anywhere within the normal service area of an F-M broadcasting station.

DRINKS BY BARGE

Use of barges and waterways instead of trucks and highways to service distributors in New York's metropolitan area has solved a knotty delivery problem for Pepsi-Cola's Long Island bottling plant (below). Six barges and coal burning tugs were put into service four months ago after truck mileage cuts were ordered by the Office of Defense Transportation. Hauling about 8,000 cases each, the barges, loaded by gravity conveyors (left), are towed to key waterfront points where distributors pick up allotments. Barges have cut road mileage 25%.

How to quiet an Airplane Motor or a Bowl of Soup!

GOLD BOND ACOUSTICAL MATERIALS FOR QUIETER LIVING TOMORROW



Today, like so many other National Gypsum products, Gold Bond acoustical materials are war workers. Huge quantities are being used to deaden the ear-splitting roar of airplane engines during testing, to increase working efficiency in noisy war plants and offices. But from these developments will come quieter living.

For example, Mother and Dad will love the idea of Gold Bond sound conditioning for the recreation room, nursery and the boys' room. Sounds too good to be true, but it's sure to come. The best part of it is—these noise reducing walls and ceilings will be within the budget of even low-cost homes.

You'll notice a big difference after the war. Wherever noise reduction is desirable—in restaurants, offices, corridors, schools, hospitals, even in new and modernized plants—Gold Bond acoustical materials will quiet nerve-wracking noise almost to a whisper.

Following victory, look for the biggest building boom in history! And National Gypsum will be ready, for its 21 big plants can be reconverted in a matter of hours to the manufacture of peacetime products. In the meantime, many of the more than 150 Gold Bond items are still available for necessary civilian building and repairs. See your local Gold Bond dealer! National Gypsum Company, Buffalo, N. Y.

WARTIME PRODUCTS OF NATIONAL GYPSUM: METAL LANDING MATS FOR PORTABLE AIRFIELDS; INSULATION TO KEEP OVERSEAS FOOD SHIPMENTS FRESH; GOLD BOND GYPSUM BUILDING BOARDS TO REPLACE SCARCE LUMBER; METAL CASTING PLASTER TO ELIMINATE FINISH MACHINING FROM DELICATE NON-FERROUS CASTINGS; LIME FOR THE MANUFACTURE OF STEEL AND MAGNESIUM.

LABOR

Foremen Voting

Unable to achieve their purposes by talk, plant bosses are scheduling five strike ballots in Detroit and Cleveland.

The Foreman's Assn. of America, independent union, has not found persuasion and words too effective in attaining its two major objectives—recognition as a bargaining agency, and higher pay brackets for supervisory help. Starting next month, therefore, the association is taking a series of strike votes in Detroit and Cleveland plants, having filed notice to that effect under provisions of the Connally-Smith act.

• **Elections Are Arranged**—Tentatively scheduled for Nov. 2 is a vote at one Briggs Mfg. Co. plant in Detroit. Foremen at three other Briggs plants and at the De Soto plant of Chrysler will also vote in Detroit, probably Nov. 10, as will the foremen in the 98-in. strip mill of Republic Steel Co. at Cleveland.

Not so clear is whether a strike vote will be taken among Packard Motor Car Co. foremen at Detroit who participated in a no-work demonstration in mid-October. The Packard men simply did not report to work one Sunday, in protest against company policy of paying them time and a half for a seventh day of work, as for all time over eight hours daily or 40 hours weekly.

• **Wanted Double Time**—The supervisors claimed they, like production workers, were entitled to double time on a seventh consecutive work day. Whether this dispute will reach a strike vote stage, however, is problematical; union sources believe it a matter concerning only the company and the employees, insufficient in itself to call in government agencies.

Grievances listed at the other six plants parallel each other. In all except two of the Briggs plants, unwarranted discharges of foremen are alleged. Adjustments of pay rates, particularly on overtime, are sought. Most important, of course, is the association's claim to recognition as a bargaining agency—despite past refusal of the National Labor Relations Board to accord such recognition (BW—May15'43,p8). Government labor experts hint that if the foremen hope to win recognition by strike pressure, they are apt to be disappointed.

• **How About U.A.W.?**—Should the strike votes at Briggs and De Soto favor a walkout, as some Detroit observers expect, a key question will be whether the members of the C.I.O. United Automobile Workers will pass through the foremen's picket lines. The foremen may sidestep this possibility, however, by asking production workers not to stage sympathy strikes, but only to refuse to work in vacated supervisory places or under substitute bosses.

The foremen have staged strikes in Detroit, at Ford Motor Co. These walkouts were no more than partially successful, however, because manufacturing and output ran along only slightly below standard; and the tie-up ended before it could be determined whether sustained supervisory absence from factory floors would impair efficiency to a danger point.

• **Big Membership Claimed**—The association claims nearly 100% membership among the eligible personnel at the plants where strike votes will be taken. Of 630 foremen at the four Briggs plants, 600 are claimed as members; of 210 at De Soto, 197 are claimed. In each case, of course, management replies that it does not deal with the Foreman's Assn. because of the NLRB refusal to recognize foremen as a legitimate bargaining bloc.

At the Republic mill in Cleveland, where the association claims 59 of the 60 foremen employed, a strike tied production in a knot three weeks ago. Thirteen foremen walked out, protesting a company appointment to a supervisory job, and picketed the plant. The picket line was respected by some of members of the C.I.O. United Steelworkers of America, who did not enter the plant until instructed to do so by their union chiefs and by the National War Labor Board.

Too Cooperative

That's NLRB's edict in cases where, the board says, labor-management committee bred company-dominated union.

The War Production Board admittedly has had a hard time convincing employers that they should institute and support labor-management production committees. To many firms establishing such a committee, even though WPB was able to demonstrate that it could increase production, seemed like opening to a union the door to management's most jealously guarded precincts.

• **Enthusiastic Embrace**—This was not, however, the case at the J. G. Greer Co., Cambridge, Mass., according to findings of the National Labor Relations Board on the complaint of C.I.O. steelworkers union. Indeed, Greer embraced the labor-management committee idea enthusiastically—but not, says NLRB, for the purpose WPB had in mind when it asked industry to help

WORKERS' SECRETARIES

In the scramble for workers, employers are trying all sorts of schemes to keep employees happy and—more important—on the job. One such method of cutting turnover is United Air Lines' new counselor service for its 150 women in the Los Angeles area. Staffed by four women who make frequent departmental checks (above), the service handles all types of personal problems for workers who can't take time off. They obtain ration books, housing, transportation, and solve many other problems.

A plan to Check Loss of Personnel . . . *"Honesty Engineering!"*

When trusted employees help themselves to your money or merchandise, fidelity insurance will repay your financial loss. But it cannot make good your loss of trained, hard-to-replace manpower, or offset the blow to morale in your office or plant.

Now, through its Personnel-Protection Plan, the U. S. F. & G. is ready to help you stop employee dishonesty before it starts!

A western packing company, for example, was having so many losses due to employee dishonesty that it faced the loss of fidelity insurance protection. But when it adopted the U. S. F. & G. Personnel-Protection Plan, dishonesty losses dropped more than 80%.

This new plan of "Honesty Engineering" helps reduce employee dishonesty in much the same way that safety engineering and fire prevention work have reduced accidents and cut fire losses for American business.

Based on long experience in the bonding field, the U. S. F. & G. Personnel-Protection Plan not only insures you against loss through employee dishonesty but: (1) discloses undesirable personnel and prevents waste in training; (2) through tested methods helps keep good employees from going wrong; (3) helps employers eliminate leaks and pitfalls and acts of carelessness which often lead to employee dishonesty.

Your U. S. F. & G. agent will be glad to give you more information about how the Personnel-Protection Plan helps you keep your employees by keeping them honest. Consult him.

• • •

Branch Offices in 43 Cities—Agents Everywhere

U. S. F. & G.

UNITED STATES FIDELITY & GUARANTY CO.

affiliate:

FIDELITY & GUARANTY FIRE CORPORATION

HOME OFFICES: BALTIMORE, MD.

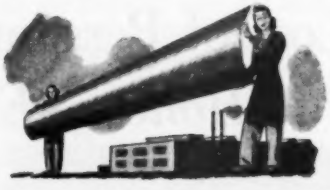
Consult your insurance agent or broker as you would your doctor or lawyer

"Air at Work..."

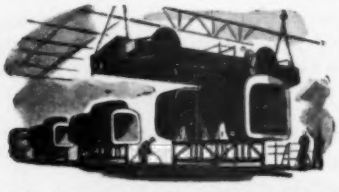
PUTS *wood* INTO THE SKY ON TIME!

RIDING THE AIRWAYS with our bombers and fighters are countless American planes *made of paper-thin wood!* The huge wing sections, fuselages and other units of these cargo carriers and trainers are built of thin wood veneers—bonded with a *plastic resin glue.* It takes plenty of "Air at Work" to achieve this war-born miracle of fabrication, whereby the weight-strength factor and uniformity of metal are equalled with a normally weaker, less stable material. Step into a typical plywood fabricating plant and see how it's done.

1. Production executives in this converted piano factory soon found that the molding of complex curved plane sections was quite different from the molding of flat plywood panels for pianos. Precious time was taken up waiting for the plastic resin glue on each veneer strip to dry before the next one could be positioned on top of it in the mold. Changes in the weather meant glueing time varied—units made one day were not identical with those made the next.



2. So, in went seventeen separate and distinct air conditioning systems—designed and installed by Sturtevant—*to circulate more than 3 million cubic feet of air every hour*—to maintain the exact humidity required for each stage of manufacture, from veneer storage to finished units.



3. Results—glueing time meets strict government standards, is always the same. Fabrication and handling are speeded up . . . completed units for the plane manufacturers' assembly lines are absolutely uniform, go into place without a hitch.

WHATEVER THE PRODUCT—the use of *engineered* air to heat, dry, convey, ventilate, control dust and fumes or burn fuel more economically—will make the difference between profit and loss in many a post-war plant. Sturtevant is ready to work with you or your post-war planning committee to start solving these "engineered air" problems now.

B. F. STURTEVANT COMPANY
Hyde Park • Boston 36, Mass.

Sturtevant
Puts Air to Work

in the establishment of such units in war plants.

NLRB held that Greer was using its labor-management committee as a company union—a grievance-handling, collective-bargaining, employer-dominated organization created and maintained to block out the C.I.O. Brushing aside the company's contention that it had patterned its committee on a plan suggested by WPB, NLRB ordered the committee disestablished as an organization outlawed by the Wagner act.

• **Not Encroaching on WPB**—In directing Greer to dump its committee, NLRB took pains to make clear that it was not generalizing about one of WPB's pet schemes. It underlined the fact that it did not intend to interfere with WPB's program or with the "legitimate functions" of labor-management committees. It nevertheless warned that "such committees were never intended to be, and they cannot be permitted to become" an obstacle to the exercise of employee rights guaranteed by the Wagner act.

WPB recognized early that if labor-management committees were to have union support they could not encroach on the traditional functions of organized labor. In an official pamphlet, the board stated that the committees are not meant to "promote company unions." This official proclamation was an attempt to win labor support for the committee idea, for one of its anomalies has been that unions have been about as cool to the program as management.

• **Reaction Feared**—Consequently, WPB is fearful that NLRB's Greer decision will make employers even more gun-shy of the committees and will harden labor's antagonism. It hopes that publicity being released about a first-class job being done by a committee in the Camden yards of the New York Shipbuilding Corp. will counteract a bad reaction to Greer. WPB is hanging its publicity on a peg provided by Selective Service Director Lewis B. Hershey, who praised the committee for its cooperation with local draft boards. He has indorsed the idea as an "aid in the fair adjustment of draft deferment policies in war plants."

New York Ship and Local 1 of C.I.O.'s shipyard workers union jointly put their hearts into building a successful committee about a year ago. A school was established for members of departmental subcommittees, and they were taught how to work in a cooperative labor-management program designed to speed production, break bottlenecks, and cut down absenteeism.

• **Morale High**—Among other things they were taught the principles of suggestion systems, of handling publicity and of building morale. Now transportation, rationing, health, and housing are problems handled by these subcommittees, and the company has pro-

ABOR'S OBSERVERS

low that all kinds of expert observers ve been exchanged with England, ain workingmen are getting their m. Two of the four C.I.O. and .F.L. workers sent overseas recently e Stanley Ceizyk (left), aircraft me-anic, and Joseph Smith, steam fitter. hey're observing Britain's war pro-uction and are slated to tour Italian ar fronts—with the Office of War formation paying all the bills. A itish group will accompany them ome to see American industry at ork. Both delegations were chosen om representative aircraft, steel, en-ine, and chemical plants.

ded a full-time poster artist to produce lustrations to keep the plant informed t all times about what its committee is oing.

Today, according to both manage-ent and labor sources, absenteeism the yard is at its all-time low and orale is at a record high.

IGGER 48-HOUR LIST

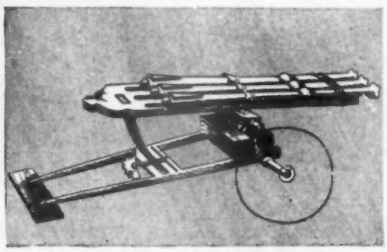
In the hope of alleviating manpower queezes by greater utilization of labor-n-the-job, War Manpower Commis-oner Paul V. McNutt has ordered the 8-hour week into effect Nov. 15 in all ities in which the manpower situation s acute (the so-called Group 1). Ex-mptions may be granted by WMC ra directors on application by indi-idual concerns.

The 48-hour week is now effective in 0 of the 71 Group I cities. Cities dded in the future to the Group I list ill have 30 days in which to comply.

METAL OF PROGRESS...COPPER

Ancient Ordnance

Predicting developments of today was Leonardo da Vinci's conception of a bronze field gun with three breech-loading barrels. This breech-loading idea, conceived in the 15th century by the great painter and inventor, was not adopted until nearly four hundred years later, but it pointed the way for modern fixed ammunition.



BRONZE BREECH LOADER
. . . It Pointed the Way

Yankee ingenuity during the Civil War developed fixed ammunition and breech-loading rifles, vastly superior to muzzle-loaders. Here were used the world's first metallic cartridges—made of sheet brass produced by Lyman W. Coe in 1862. His Coe Brass Mfg. Co. of Torrington, Conn., was later to become an important unit of The American Brass Company.

For the fifth time in its history, The American Brass Company is helping to safeguard our Nation by producing copper alloys in the vast tonnages needed to win World War II. A large part of the record output of the 13 U.S.A. and Canadian plants operated by the company consists of brass cups and discs, used in the manufacture of fixed ammunition.

For Tough Jobs

Landing boats, an important link of an invasion force transport chain, execute rough assignments. Driven hard on hostile shores to land U.S. fighting men and equipment, they are strafed from the air, bombarded by artillery, machine gunned from the shore. And they carry through, deliver their loads, back off, and repeat the process time and again.

Many of these boats get their power transmission through Tobin* Bronze propeller shafts — the overwhelming choice of power boat owners.

Tough and rugged, resistant to shock and salt water corrosion, Tobin Bronze was "made" for this type of fighting service.

3-Way Cooperation

The fine spirit of Allied cooperation existing between the United Nations was symbolized at Superior, Wisc., when the "Quint Fleet" was christened by the Dionne quintuplets. For the 5 cargo vessels were built by Americans, christened by Canada's five little ambassadors of good will, and are now manned by the British Merchant Marine.

Only the finest, most durable materials were used in this famous cargo fleet, built by the Walter Butler Shipbuilders, Inc. Large quantities of Anaconda Seamless Copper Tubes, up to 12 inches in diameter, were used in the condenser and circulating systems.

"QUINT SHIP" PIPE LINES
Both Tubes and Fittings Are Copper

Important Trifles

Those bolts, screws and rods which fasten and hold secure the hulls of PT boats and other light Navy fighting craft. Made of Everdur* and other copper alloys, they also serve "tough spots" on the production front.

Corrosion resistant, proof against rust, billions of tough, strong copper alloy bolts, nuts, screws, washers and rivets keep vital processing equipment tightened securely, save uncounted dollars, priceless hours of lost time due to breakdowns caused by corrosion. They play a heavy role in keeping up war production under today's gruelling conditions.

4511

*Trade-marks Reg. U.S. Pat. Off

ARMY E NAVY

Flies Over All U. S. Plants

BUY MORE WAR BONDS FOR VICTORY

Published in the interest of a better informed war effort by

THE AMERICAN BRASS COMPANY ANACONDA

General Offices: Waterbury 88, Connecticut • *Subsidiary of Anaconda Copper Mining Company*

Leave for Mothers

NLRB decides women are entitled to three months before and three months after the birth of their children.

The National Labor Relations Board has decided that a working mother who gives birth to a child should be allowed six months' leave from her job—three months before and three months after the child is born.

• **Back Pay at Stake**—Now it's up to the Second U. S. Circuit Court of Appeals to decide whether that determination is fair. And on the court's decision hangs the question of how much back pay is to be allowed five of eight discharged women employees of the Empire Worsted Mills, Inc., Jamestown, N. Y., ordered reinstated to their jobs.

The eight women were fired—discriminatorily, according to NLRB's finding, for activity in the C.I.O. Textile Workers Organizing Committee—and during their absence from the mills five of them had babies.

• **Many Precedents**—When the question of reinstating the women with back pay arose, the employer argued that those who bore children should not receive back pay during the period of their pregnancy nor for some period after the date of birth. The court delegated NLRB, in collaboration with other federal agencies, to explore precedent and make a recommendation.

NLRB found many precedents, but few of them alike. The Social Security Board, for example, regards women as unavailable for employment after the seventh month of pregnancy in the absence of proof to the contrary. On the other hand, the U. S. Dept. of Labor allows six weeks in advance of childbirth, while state laws and regulations range from two weeks (Massachusetts and Vermont) to four months (Washington).

• **Postnatal Leave**—For postnatal care, the Dept. of Labor requires at least two months' leave. State regulations in Washington require six weeks; in Connecticut, Massachusetts, New York, and Vermont, four; in Missouri, three.

HOLLYWOOD WORM TURNS

In the wage increase demands which the Screen Actors Guild set before the major movie producers last week lay the tipoff to a malady that is strange in Never-Never Land—a manpower shortage among extras.

The union's proposals included one that extra players and standins, who averaged about $5.50 a day in peacetime, be increased to as much as $12.75 a day.

The shortage of extras has grown so acute that studio executives no longer have enough relatives to fill them; they're urging all employees to enu their relatives for jobs, and they're wr ing mob scenes out of the scenarios stretch their supply of extras as far as will go.

WEIRTON DISPUTE ENDS

The seven-year-old labor dispute i volving the Weirton Steel Co. befo the National Labor Relations Board w finally washed up this week.

The Weirton case ended with the di bursement of $92,568.81 of compan money to 16 former and present em ployees and to the estate of a 17th, no dead, who were discriminatorily di charged during the C.I.O.'s 1936–19 organizing drive. The union, the known as the Steel Workers Organizin Committee and now as the Unite Steelworkers of America, had originall entered back pay claims for 301 of it members, totaling several million dollars

NWLB SAVES VINSON'S FACE

The National War Labor Boar saved the face of Economic Stabilizatio Director Fred M. Vinson this week b approving a wage increase of 5¢ a hour for employees of the Los Angele Railway Co. The award made it fea sible for Vinson to ratify a similar in crease for employees of the Pacific Elec tric Railway Co.

The stabilization director was in a tight spot. Last July, when an emer gency board functioning under the Rail way Labor Act recommended an in crease of 13¢ for the Pacific Electric workers, Vinson slashed it to 3¢, pre cipitating a protest strike. President Roosevelt appointed an emergency panel to reconsider the wage demands, and the panel recommended an additional 5¢ wage increase.

Vinson, eager to avoid further dem onstration, needed a reason for revising his earlier decision. NWLB provided him with the reason by advancing the wages of Los Angeles traction workers 5¢. Vinson previously had held that the Pacific Electric employees were en titled to 3¢ an hour more increase than the Los Angeles workers. When NWLB pushed up the Los Angeles wages a nickel, Vinson could, without inconsis tency, approve the same increase at Pacific Electric.

WMC AGENT YIELDS

A long and bitter controversy between the War Manpower Commission and organized labor in Rhode Island ended this week with the resignation of Farrell D. Coyle, former WPA administrator, from all association with WMC (BW-Aug.28'43,p97).

Coyle, Providence area director for the WMC and aide to Thomas H. Bride, acting state WMC director, gave

an unusual book that brings you
Self development *without* self delusion

HOW TO—give your ego a chance—what it is, what it needs for uninhibited action, how to overcome the fears of all degrees that affect it

—how to lay out a workable life plan—with objectives that will satisfy *you*—and definitely attainable because you yourself have made it so

—how to equip yourself for working out your plan

—how to develop five important qualities of tact, judgment, memory, concentration, and insight

—how to size up your "personality quotient"; how to acquire decisiveness; how to get along without people as well as with them; etc.

Here is a book that promises you much good, in a fuller, more successful and satisfying life . . . and shows you how to get it without undertaking complicated psychological analysis or rigid regimentation of your affairs.

In a sensible, bunk-less treatment, it explains simple ideas and methods for achieving success and happiness *in terms of a satisfactory way of life within your opportunities and capabilities.* It will help you set a reasonable and worthwhile goal—to reach that goal—and to enjoy life in the process.

Just Published—Martin Panzer's

It's YOUR Future

Make the Most of It!

$2.50

This is not a book to study, but one to read through easily, then to re-read, in whole and in part. Martin Panzer writes smoothly and with much humor, and with focus on everyday people, situations, and circumstances in his illustrations and anecdotes. You'll find yourself absorbing his ideas and pointers, understanding and applying his methods, even as you enjoy this readable book.

ASK TO SEE IT 10 DAYS FREE

- **Based on sound principles interpreted for everyday people**
- **Shows means of fuller living that are near at hand and available to all**

McGraw-Hill Book Co., 330 W. 42nd St., N. Y. C. 18

Send me Panzer—It's Your Future for 10 days examination on approval. In 10 days I will send $2.50 plus few cents postage, or return book postpaid. (Postage paid on cash orders.)

Name .....

Address .....

City & State .....

Position .....

Company ..... BW. 10-30-43

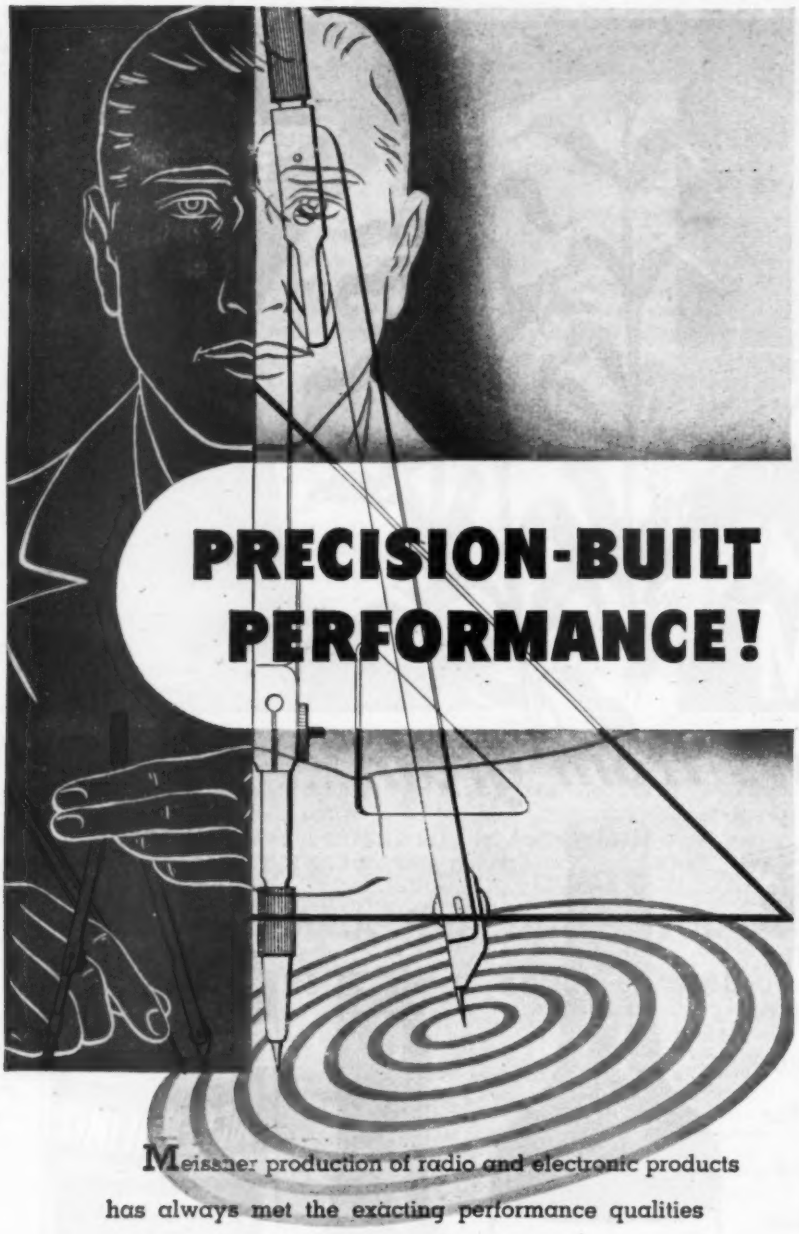
grows from grain....

Wherever our armies and the armies of our allies fight for freedom, we of The American Distilling Company are fighting, too. Today, ALL of our production is alcohol for use in smokeless powder, chemicals, pharmaceuticals and synthetic rubber. So, if you are unable to buy OLD AMERICAN BRAND whiskies or any other old favorites, be patient. They will return with peace.

Meanwhile, from our pre-war stocks of mellow whiskey, we continue to offer limited supplies of:
BURTON'S *Blended Whiskey, 86.8 proof, 60% grain neutral spirits*
BOURBON SUPREME *A Blend of Straight Whiskies, 90.4 proof*
GOOD OLD GUCKENHEIMER *Bottled-in-Bond Straight Bourbon and Straight Rye Whiskies.*

THE AMERICAN DISTILLING COMPANY INC.

PEKIN, ILL. NEW YORK, N. Y. SAUSALITO, CAL.



Meissner production of radio and electronic products has always met the exacting performance qualities expected from precision craftsman. Over twenty years of engineering research is the foundation upon which the name Meissner has acquired the position of a leader in precision-built radio and electronic products. To be assured of the highest quality, look for the name Meissner on post-war radio products.

Meissner

MT. CARMEL, ILLINOIS

"PRECISION-BUILT ELECTRONIC PRODUCTS"

"personal reasons" for his resignati
Behind those "personal reasons"
months of controversy between or
ized labor, abetted by Rep. John
Fogarty, and WMC over Coyle's
pointment to the post under
sponsorship of Sen. Theodore F. Gr

During the controversy, a dispute
veloped over WMC hiring requ
ments at the Walsh-Kaiser shipyard
Providence, as the result of which
unions for six days refused to refer
applicants to the shipyard.

The controversy also prevented
formation of a WMC labor-mana
ment committee and consequent est
lishment of an area employment-sta
ization agreement, leaving Rhode Isl
the only area in New England with
such a committee and such an ag
ment.

Labor unions refused to particip
in WMC labor-management activi
as long as Coyle, whom they accu
of having an antilabor record as W
administrator, was associated with
commission.

To Halt Turnover

**Uniformity of wages a
working conditions, created b
California pact, has stabilize
state's construction labor.**

While shipyards and neighboring a
craft plants are struggling in the gr
of manpower shortages, the constructi
industry in Southern California is e
joying comparative freedom from su
annoyance.

• **Master Contract**—Credit for this st
of affairs is conceded to the comprehe
sive labor agreement which now gover
all forms of construction in that are
not only building construction, but al
such heavy engineering operations
highways, bridges, railroads, pipelin
and dams.

The agreement embraces all work p
formed by all members of the Southe
California Chapter of the Associat
General Contractors of America
twelve counties—Los Angeles, Im
Mono, Orange, Riverside, San Bern
dino, Imperial, San Diego, Ventu
Santa Barbara, San Luis Obispo, a
Kern, an area of almost 70,000 sq. mi.

• **Strikes Forbidden**—Twenty buildi
trades unions affiliated with the Amer
can Federation of Labor are parties
the contract which forbids strikes of a
nature and, in a year and a half of op
ation, has proved an effective bar
jurisdictional walkouts.

Principal wartime merit of the agre
ment, in the eyes of both union offici
and contractors, is the uniformity
wages and working conditions it h
created throughout the area of its infl

. This feature eliminates much of temptation to change jobs and thus s labor turnover to a minimum.

ccessful Year—As originally drawn he spring of 1942, the agreement ered only the six basic trades (engi-, laborers, truck drivers, carpenters, ent finishers, and iron workers) in en of the twelve counties. It proved uccessful in its first year that, when agreement was renewed for a year May, it was broadened to include Diego County and 14 additional ons.

RKSHIRE STRIKES BACK

The Berkshire Knitting Mills, long broiled with the National Labor Re-ns Board, asked the U. S Circuit rt of Appeals at Philadelphia this k to set aside a board order of last 12 directing the company to rein-e with back pay some 300 employees were fired after a strike in 1936. board coupled its reinstatement back-pay order with a directive to stablish the company's Employees n., alleged by NLRB to have been pany-dominated.

EY KNIT THEIR OWN

or the war plants which bar expec-mothers from the payroll (BW—25'43,p80), the Minneapolis Knit-Works has nothing but a chuckle. ead of refusing to employ pregnant nen, the company is advertising for m.

Minneapolis Knitting Works, manu-urer of baby garments which are in al demand, offers to employ ex-tant mothers for three months on its hines and to give them, when they e, a layette of three shirts, three ds, two binders, three training pants, three nightgowns.

The women are seated at their work, a nurse is on full-time duty.

UBTERFUGE BONUS" NIPPED

National War Labor Board disap-val of an attendance bonus plan pro-ed by the Statesville Cotton Mills Statesville, N. C., does not rule out ttendance bonus plans. It reveals, er, the board's intention to block that are used as subterfuges for eral wage increases.

n the cotton mill case, NWLB said t the plan was in reality a "com-ation shift differential and indirect increase proposition," providing wage adjustments varied according hift and according to the percentage orkers in attendance each week.

NWLB said that there was no indi-on of a serious absentee problem he plant, or any evidence to show management had taken other steps educe absenteeism.

Photo courtesy, THE HEIL CO.

...Because We Helped Keep Supplies "IN THE CLEAR"

On Mediterranean beaches, smoke generators like this threw out a dense concealing screen. Lives were saved because they were ready, confusing the enemy and greatly reducing the effectiveness of his fire.

One reason they were ready goes back to the manufacturer's plant in Milwaukee, where these units were built to rigid Chemical Warfare Service standards. Here, confusion was kept at a minimum by a *scheduled* service of supply on essential "bits and pieces" ... furnished "via GRAYBAR". Hard-to-get conduit connectors, for example, were ready on time.

Builders of war equipment find it easier to keep in the clear by using GRAYBAR as a "materials mobilizer" for all the electrical items to be built into their products. One order brings supplies from scores of different suppliers. One "hurry call" gets action on every electrical part.

When the Smoke of War Clears...

your "electrical supply" problem may be more confusing than ever, with new materials, new products and new producers all jockeying for position. Whether you'll be buying new electrical parts or seeking markets for electrical products, you'll find GRAYBAR with unmatched facilities for cutting costs and confusion in the link between supplier and user.

GraybaR

MOBILIZATION POINTS IN OVER 80 CITIES

Executive Offices: GRAYBAR BLDG., NEW YORK 17, N. Y.

Bringing together more than 200 manufacturers . . . 20,000 customers

GRAYBAR Everything Electrical . . . . THAT IT TAKES TO WIN!

Selling the Staff

Carrier Corp. is conducting lecture course among employees to acquaint them with all phases of management operations.

Labor's ignorance of management problems is often deplored but seldom remedied. Carrier Corp., Syracuse, N. Y., manufacturer of air-conditioning equipment, has attacked this condition from a new angle with promising results. It inaugurated last month a lecture-discussion course which explains to employees how the company was born, how it has grown, what it needs for a healthy future, where it fits into the over-all business pattern, and why the welfare of the individual Carrier worker is linked to the progress of the Carrier Corp.

• **Others Interested**—The course was given the imposing title of Carrier Institute of Business to impress enrollees with its importance. It consists of 14 lectures on consecutive Monday nights, the grand climax coming on Dec. 13 with graduation exercises and presentation of diplomas. Lecture subjects are carefully selected to cover the fields of finance as well as management. After each talk, special devices are employed to make sure that the subject is well digested. Since the start of the experiment, Carrier has had numerous inquiries from other companies which indicated that they might develop adaptations.

Exigencies of war production furnished the initial impulse for the project. It came during a discussion of absenteeism by Carrier's "war production board" which is its labor-management committee. Such devices as drawings for war stamps and bonds helped attendance; so did the cutout figure of Gen. Douglas MacArthur which is awarded weekly to the department having the best attendance record; but it was acknowledged that something still was lacking. Ray Mahar, a salvage worker who is a member of the board, put his finger on the basic fault.

"The trouble," said he, "is that a man tied down to one machine or one job only knows what's going on around him. He ought to know about all the other operations of the company."

• **Executives Outlawed**—Cloud Wampler, Carrier president, decided Mahar had something. He delegated a committee which, under the leadership of W. A. Bowe, advertising and public relations manager, came up with the institute idea.

In order to heighten the workers' interest, no executives were allowed on the institute's board of managers. Its chairman is Bernard McPeck, who works on production control. Mahar is one of the members. They limited membership to 108 of Carrier's 1,500 Syracuse employees—or just enough to fill the desks of the Central High School classroom which was obtained for the course. There were 265 applications for enrollment, and the 108 accepted were chosen to represent a percentage of all departments with first comers receiving preference. No one earning over $3,000 was accepted, and only wage-earners under supervisory rank were eligible.

• **Serious Business**—The prospectus explained that all expenses would be borne by the company even down to the notebooks. Absenteeism was not tolerated. A single unjustified absence from one of the Monday night sessions meant dismissal from the class. The penalty has been applied only once—in the case of a woman employee who had some friends dropping in. Her place was filled from the list of original applicants.

The class meets at 8:15 p.m. Speakers are introduced by McPeck. The lectures must be held to 45 minutes, and before they are delivered, the manuscripts get a going over by McPeck's board to make certain that the language is understandable to the worker or that important points are covered.

• **Discussion Groups**—There is a reason for this intentness even when the question at issue lacks excitement. After the lecture, the class breaks up into ten discussion groups, under discussion leaders who are young executives. Before comment begins, each student is handed a quiz sheet with statements bearing on the lecture just delivered. These statements must be marked "right" or "wrong." The papers are graded for accuracy by the leaders.

Discussion leaders start the debate and keep it going. Sometimes they have to clamp down on individuals with pet ideas who want to waste too much time on speeches. If interest lags, the leader spurs it along with provocative queries, as "Joe, what points in the lecture weren't clear to you?" or, "Helen, did the speech miss anything you'd like to have covered at later sessions?"

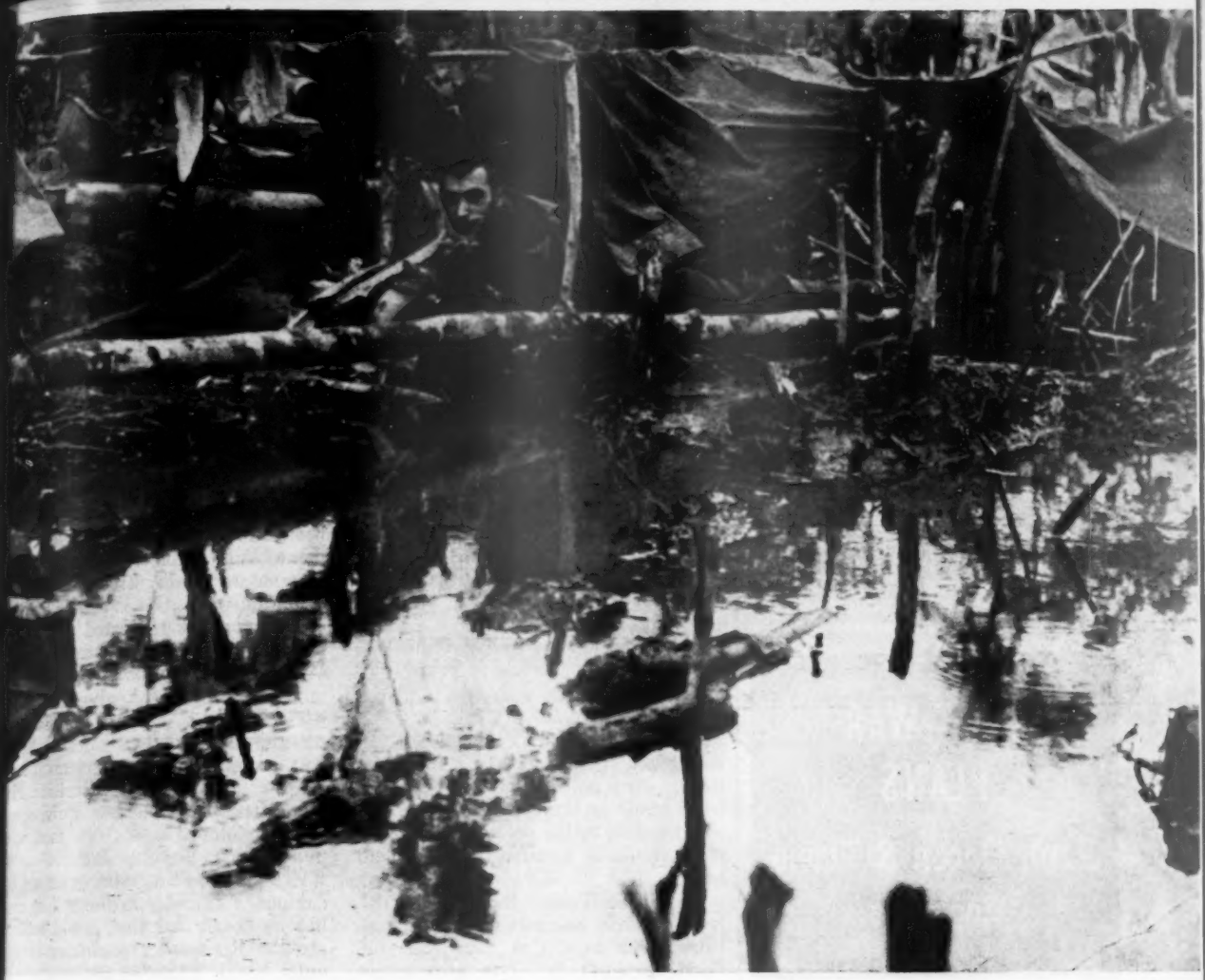
• **Only Six Guest Speakers**—Six lectures in the 14-week course are reserved for outsiders, the rest being handled by Carrier executives. The project started Sept. 13 with a talk by Willard Chevalier, publisher of Business Week, on "what makes America great." Wampler was second on the list with an explanation of management's job. A blackout interrupted his discourse, but he capitalized on the turn by inviting questions in the dark and recognizing the questioners from their voices. E. T. Murphy, the company's senior vice-president, told how Carrier grew from seven men with an idea and $35,000.

There were grave forebodings before the analysis of Carrier's finances, by Fred F. Hoyt, vice-president in charge of money matters. It was feared that such dry and complicated material might be too much for the class, so a movie on investment banking was used as a curtain raiser. Actually the picture got less attention than Hoyt's personally conducted tour of Carrier's finances.

• **Results Seen**—It is too early to measure the exact extent to which the indoctrination of the institute's 108 worker-students has spread through the rest of Carrier's employees. But there is evidence that facts absorbed in the school have been employed in the company's favor in locker rooms and luncheon groups. If a disgruntled employee complained about the percentage of profits taken by executives, an institute man could point out that officers got only 1½¢ of each sales dollar.

In addition to explaining the company to its workers, the course is expected to uncover talent for future promotions and responsibilities. Already there is talk of a second 14-week course, with a different class of 108 members. The extension is being urged by ambitious employees, and the project might eventually become a Carrier fixture.

Carrier's president, Cloud Wampler, perched informally atop a desk for a man-to-man talk with his employees at the novel labor-management school.



THANKFUL
or a bit of Canvas Overhead

PUA . . . Sananda Area: It really rains in New ea — inches in one night — and a bit of Canvas rhead is mighty welcome.

every yard of Hooperwood FIRE CHIEF-finished vas is just as important to the war effort as steel, minum, explosives and other vital materials, for our ed forces literally travel, live and fight under canvas.

when the war is over, this amazing fire, water, ther and mildew resistant Hooperwood "Engineered vas"—now produced exclusively for government ds—will open up new broad fields of usefulness, ft many widely used products.

mention but a few—awnings that won't ignite from lessly-tossed cigarettes or rot from mildew; special vas truck covers that will outlast their predecessors several times over; welding curtains, construction windbreaks and tarpaulins that refuse to burn even though touched by torches, hot rivets, or glowing coals; canvas marine supplies that will help strike out the fear of fire on shipboard; aircraft canvas fabrics that repel gasoline and oil.

These and many other applications of Hooperwood "Engineered Fabrics" for business and industry will be waiting for you when conditions return to normal.

WM. E. HOOPER & SONS CO.

New York PHILADELPHIA Chicago

Mills: WOODBERRY, BALTIMORE, MD.

Since 1800 (through six wars) the HOOPER name has symbolized highest quality in Cotton Duck and other Heavy Cotton Fabrics, Paper Mill Dryer Felts, Filter Cloth, Rope, Sash Cord.

Fire-Chief Finished (PATENTED)

HOOPERWOOD COTTON DUCK

SELECTED
MOTION PICTURES
OFFICIAL U. S. WAR FILMS
ENTERTAINMENT FILMS
INDUSTRIAL FILMS
SPORT FILMS
Y.M.C.A.
Catalog On Request
Many Films Free
MOTION PICTURE BUREAU
NEW YORK 347 Madison Ave.
DALLAS 1709 Patterson Ave.
CHICAGO 19 So. LaSalle St.
SAN FRANCISCO 351 Turk St.

Cincinnati
TIME RECORDERS
For Every Time Requirement Since 1896

POST-WAR PLANS
Ford, Bacon & Davis
Incorporated
Engineers

MERIAM
MANOMETERS
—measure low pressures of gas, air, liquid, e. g., gas pressure at burner, furnace draft, liquid level in tanks; also differential pressures across air filters, pressure drop across valves and orifices. • Accurate, inexpensive —the result of 32 years' specialization.
Ask for Catalog C-10.
THE MERIAM COMPANY
1999 West 112th St. • Cleveland, Ohio
MERIAM
— THE INSTRUMENT PEOPLE

FOR HIRE
GENERAL MANAGER
OR
SALES EXECUTIVE
I'm not out of a job—in fact, I have a good one—one that pays me well into five figures. Nevertheless, I have excellent reasons for making a change. Age 47. Gentile, of Welsh descent, married, one child. Technical education—mechanical engineering: metallurgy and metallography. Experience covers steel making, forging, forming, etc.; machinery fabrication; engineering design; industrial engineering; plant management; labor relations; patents; advertising; sales; sales management and general management. 18 years on present job with AAAA machinery manufacturer—the last 6 years as Vice President.
Interested in general managership of industrial manufacturing concern employing up to 1000 men or sales managership of larger company.
PW-361, Business Week
520 N. Michigan Ave., Chicago 11, Ill.

FINANCE

Rockefeller Sells

Distribution of securities worth about $25,000,000 points to ultimate public ownership of "family" corporations.

News that John D. Rockefeller, Jr., had arranged to dispose of about $25,000,000 worth of securities created just the sort of ripple in financial circles that an important announcement under the Rockefeller name is calculated to cause. The stir didn't come up to that in the 1929 crash when John D., Sr., broke his traditional silence on financial matters to say, "My son and I have for some days been buying sound common stocks." Yet it was greeted with wide interest.

• **Into U. S. Bonds**—It meant Wall Street would have the pleasure of marketing several large blocks of popular stocks. Any possible excitement about what would be done with the proceeds was dispelled by the declaration that the funds would be invested in government bonds.

And it highlighted the fact that hallowed "family holdings" no longer pass from father to son as they once did. Fortunes don't flee into government bonds for tax purposes, because there are too few Treasury securities that afford any measure of tax exemption. Yet the bonds of the federal government provide relative stability of principal and the ultimate in liquidity. In times like the last decade and a half, these two factors become especially desirable to those who have the task of putting large estates in order.

• **Practical and Patriotic**—Thus it is no surprise to hear from sources close to the Rockefellers that the sale of family securities—many of them stocks of companies in the Standard Oil group—is as much for estate purposes as it is to aid the war effort through purchase of government bonds.

Securities involved included such personal holdings as 500,000 shares of Socony-Vacuum Oil, 200,000 New Jersey Standard, 100,000 Standard of California, 50,000 Standard of Indiana, certain family interests in Rockefeller Center, Inc., and 150,000 shares of Sinclair Oil. All in all, it was the second largest secondary distribution in Wall Street's history (764,500 shares of Gulf Oil from Mellon interests' holdings at $47.50 a share was the largest).

• **Schedule Upset**—Dillon, Read & Co. was designated to handle distribution of the securities, along with a nation-wide selling group of approximately 100 investment and brokerage houses. P... to the public were to be set at ... week's closing levels on the New Y... Stock Exchange, and the distribut... was to begin Monday, Oct. 25.

The offering was postponed, howe... with slight explanation. It was said ... Rockefeller was out of town, and that ... new date for the offering could be se... the meantime. Then, on Wednes... the deal was called off.

As usual, there were those who bla... the Securities & Exchange Commiss... supposing some stumbling block ... been thrown in the way of the arran... ment. While it is true that Rockefe... representatives discussed details of ... operation with officials of the SEC, ... commission has indicated that it t... no action to prevent the sale. This ... Wall Street with one of the little m... teries it loves to gossip about.

• **The Market's Action**—The unexpe... news of the proposed offering had, ... first, a slighly adverse effect on the m... ket prices of the various securities. H... ever, after the momentary quivver, q... tations stiffened again. In fact, it ... peared that popular interest in ... stocks involved was more whetted t... dampened. Houses in the selling gr... had no doubt that they could redist... ute the Rockefeller securities in sh... order.

Even if it did nothing else, the ... rangement brought into the limeli... the definite, though little publici... trend toward diffusion of ownership ... corporate securities via redistribution ... large security holdings. In fact, just ... taxation broke up many landed est... in Great Britain, just so have our h... income and estate taxes been hasten... decided changes in ownership of m... large American corporations of late.

• **To Small Holders**—Rockefeller's d... sion to sell his stocks by no means r... resented an isolated case. Scarcely ... business day has passed recently wi... out the market's seeing one or seve... "special offerings" on the New Y... Stock Exchange floor, or "secondary ... ferings" over-the-counter, represent... important stockholdings of wealthy ... dividuals, estates, investment compan... or endowment funds in the process ... sale among smaller investors.

Many Wall Street banks have help... the trend by using such distributing m... diums for the disposal of import... blocks of corporate shares taken over ... willingly back in 1929.

• **Help to Heirs**—In the case of indiv... uals, proceeds of such sales are mai... invested in government bonds rat... than in blue chip stocks of leaders ... other lines of industry. Mainly, this ... to help heirs as much as possible ...

ng portfolios in as liquid a position ssible, thus obviating any necessity asty disposal of large blocks of cor- te securities at sacrifice prices in or- o obtain cash to meet taxes. This although clear, is believed to be well started.

Isn't Love

Marriages of convenience, se object is selfadvantage, ome a business style, and e are some examples.

Webster defines a marriage of con- ence (the French, past masters in practice, style it "mariage de con- nce") as "a marriage contracted r for the advantages arising out of uch as keeping an estate in the ly . . . than because of mutual affec-

siness Catches On—Such occur- es, however, happen not only in so- business has dabbled at such s, too. This was aptly illustrated tly by a case in which an unsuc- ful investment trust was married off ne of the nation's large fruit and table canners, Stokely Bros. & Co., (BW–Sep.18'43,p105).

hat merger was definitely not for but, instead, very much for the pur- of "keeping an estate in the fam- It was solemnized because the brought along a handsome dowry he form of some $1,000,000 in cash, the wherewithal to raise the Stokely all tax base (which was none too factory up to then) from $1,150,000 $4,000,000), thereby permitting a g of around $1,000,000 yearly in s.

ceptive—More such unions seem able, judging from items appearing he business advertising columns of press recently. In fact, according ne inserted earlier this month by a minent financial advertising agency, ad a client with only "moderate ing power" but enjoying "a very able tax base and excess profits it of $1,500,000" which was very erested in acquiring or consolidating another corporation or firm which a large earning power but does not e these tax advantages."

ast week end, the same "business- riage broker" had still another cor- tion open to an offer. This time it a client with "large earnings" that nterested in acquiring or consolidat- with another corporation or firm ch has a tax base sufficient to absorb e large earnings." This corpora- would seem to provide an ideal e for the earlier advertiser. Prob- , however, the latter already has pted a previous proposal.

IN the jungles, soldiers are safer, more comfortable, in tropical hammocks which protect them from deadly insects and reptiles. Union Special industrial sewing machines are being used to produce these hammocks and thousands of other items essential to the war. Each item requires different sewing operations, different seams and stitches, different methods of handling. To help produce these goods efficiently, Union Special offers hundreds of styles of machines from the speedy little Edge-lock for glove seaming to the mighty Samson, world's largest sewing machine for handling huge canvas paulins. Let a Union Special "sewing engineer" help you select the equipment to handle your job. Ask for a copy of "Seams and Stitches", new handbook covering all seam and stitch types in common usage.

A few of the vital sewed articles Union Special machines are helping make available in huge quantities:

Pipe Insulation	Work Trousers	Tarpaulins
Sand Bags	Oil Filter Bags	Navy Caps
Jungle Packs	Flying Caps	Field Jackets
Army Gliders	Shelter Halves	Water Bags
Canteen Covers	Army Jackets	Leather Gloves
Field Hats	Nurses Uniforms	Baleraps

Union Special Machine Company

408 North Franklin Street, Chicago 10, Illinois

LIGHT FROM FLOORS

makes your lighting system more efficient

Human eyes are industry's finest and best tools. But they are useless without light. And the amount and quality of light depend not only upon the light source but also upon reflection and diffusion.

Light-colored walls and ceilings long have been used to reflect and diffuse light. Today, light-colored *floors* also are being used to salvage waste light.

These new light-reflecting floors are built of concrete. They are made with Atlas *White* portland cement instead of *gray* portland cement or other darker materials. Hence they reflect more light —salvage waste light. This improvement in illumination—

- ***reduces eyestrain, headaches, and absenteeism;***
- ***decreases accidents, errors and spoilage;***
- ***increases quality and quantity of production.***

Maintenance of white-cement floors is simple — frequent sweeping, occasional damp mopping, periodic scrubbing.

Send for new book, "Light From Floors." Write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

B-F-10

ATLAS

WHITE CEMENT

For Light-Reflecting Floors

THE MARKETS

Following many recent days of lackadaisical markets, with volume lagging and averages showing but little change, trading on the New York Stock Exchange early this week finally began to show signs of life. Volume, in fact, though still well under the 1,000,000-share mark, reached the highest level seen in over two months, and markets broadened considerably.

● **Bulls Get Enthusiastic**—So often when the market begins to show some signs of life after a long drought, the congenital bulls on the Street are prone to forget quickly what has been causing the earlier slow performances; also, to become sanguine about the future without making any close analysis of the factors causing the change. The present flurry has proved no exception.

More conservative market students don't think things are quite that simple. They see some improvement in investor sentiment for various legitimate reasons, and they believe the "fundamental soundness" of present price levels is well confirmed by the lack for some time of any selling pressure plus the resistance to lower prices evidenced by stocks generally. Also, they think the 15% climb seen in the Dow-Jones defaulted rail bond average since the August low to only a point under its 1943 high may even indicate some reawakening of the speculative enthusiasm so long dormant.

● **Broader Interest**—The majority of stocks are participating in the current price rise, including, to some extent, such pivotal groups as the rails, steels, and chemicals. Yet there still is a good deal of caution as to the near-term trading outlook. Trading has expanded, but not enough to dispel doubts as to the vigor of the rise.

Stimulated by mergers and rumors of mergers in the whisky field, the liquor stocks have been providing most of the market excitement. However, only the American Distilling shares have been making a showing apt to have a place in Street history. That stock, following an earlier meteoric flareup (BW–Oct 23'43,p112), ran up more than $20 from last week's high of just below $45 (and $27 a month ago).

● **Bulls Jam Opening**—By Wednesday morning, buying orders from those wanting to ride the American Distilling gravy train actually exceeded offerings of shares entered on the floor specialist's book by so wide a margin that the opening of the stock had to be postponed. Following the procedure set up for such cases, Exchange officials took action to secure an orderly market in the shares by soliciting offers of the stock in all possible quarters, such as from those previously active in selling the stock and from floor traders who might be interested in going short the shares due to the sharp rise.

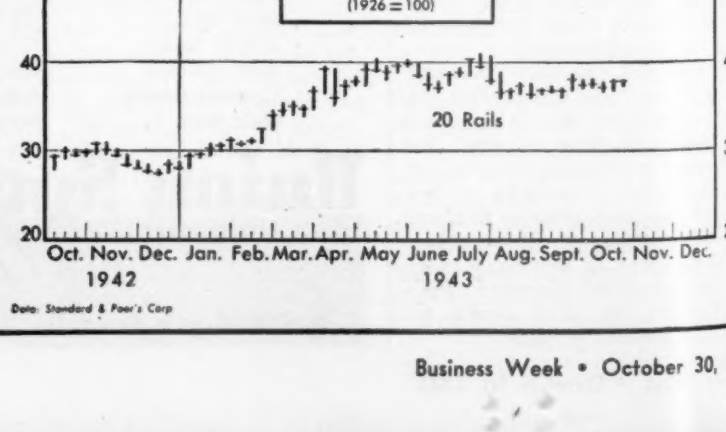
As a result, it was almost an hour before initial sales were made at $61.50 or $4.87½ above Tuesday's close.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	117.7	117.7	118.5	94.8
Railroad	37.8	37.8	37.4	29.8
Utility	51.4	50.9	51.4	34.2
Bonds				
Industrial	118.5	118.4	117.3	111.0
Railroad	99.6	98.5	98.2	88.5
Utility	115.3	115.6	115.7	107.2
U. S. Govt.	112.9	113.0	113.2	110.0

Data: Standard & Poor's Corp. except for government bonds which are from the Federal Reserve Bank of New York.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp

& O. to Reply

Management of road has n put Wall Street on pan ore ICC; now New Yorkers e shoe is on other foot.

obert R. Young and associates, who rol the choicer roads that remain the so-called Van Sweringen rail ire, in recent months have caused l Street bankers no little embarrass- t if not some actual bad moments. y have gone repeatedly to the Inter- Commerce Commission to insist competitive bidding (BW—Oct.'43,) for railroad securities, and they succeeded in getting the Wall eters' applecart upset on several sions.

&O. to Explain—Thus it is not sur- ing that Wall Street bankers are ving a little quiet glee from seeing Chesapeake & Ohio Ry. (controlled Young through Alleghany Corp., holding company in the "Van" em) called before the ICC to an- questions. The answers may be , but Wall Street hopes not.

The C.&O. management (Young is irman) will appear before the com- ion on successive days—Nov. 1 and First will be the matter of the 's application to purchase 60,000 es of Wheeling & Lake Erie com- at $52.21 a share (and 14,357 addi- al common or preferred at some date).

arlier Hearings—This is the same k of Wheeling & Lake Erie that ghany-controlled Nickel Plate un- ook to buy recently at $53 a share. Nickel Plate purchase was turned n by the ICC on several grounds: there was no need for the acqui- n; that, in effect, it would divert ds from Nickel Plate debt retire- t; and that, altogether, it was not in public interest.

urchase of the shares, however, ld give C.&O. and Nickel Plate, ly, 67% of W.&L.E. stock against % at present. The larger holding ld facilitate an ultimate merger, so &O. wants to buy.

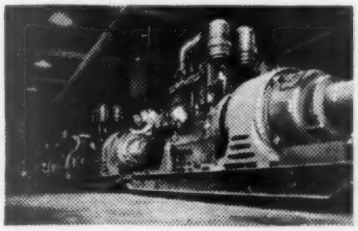
ew Stock Issue—The second hearing erns issuance of 765,730 shares of par 4½% preferred by C.&O., the k to be distributed to present com- n stockholders on the basis of $10 preferred for each common share. s plan has been attacked by certain mon stockholders who contend that plan would dilute earnings of the r shares, that it might entail a tax ility on the part of recipients of the idend, and, behind their hands, they e that the chief beneficiary would Alleghany Corp.

The management contends, however,

Post-War Planning

Your boy, on his off-duty patrol of some unfamiliar Main Street, is more concerned about getting back to "God's Country" for fishing season than in solving the problems of racial determination of international boundaries. His post-war planning is personal and practical, and centers around his own family and home.

We're planning for post-war homes, too, here at Bardco. Just now, our various divisions are supplying equipment to both the Battle Front and the Farm Front. But when the war's over we expect to serve the Home Front, with products that make life more pleasant. Look forward to surprising developments in electrification, based on all we've learned in war production, and designed to make post-war homes more convenient and comfortable.



Bardco electric generating plants supply light and power all over the globe —wherever Army and Navy Forces are operating.

BARDCO

Reg. U.S. Pat. Off.
ELECTRIC BARDCO POWER

MANUFACTURING & SALES CO.

512 Linden Ave., Dayton 1, Ohio • 2450 E. 23rd St., Los Angeles 11, Calif.

ADVERTISERS IN THIS ISSUE

Business Week—October 30, 1943

ACME STEEL CO. 24
Agency—FULTON, HORNE, MORRISSEY CO.
THE ADDRESSOGRAPH-MULTIGRAPH CORP. 83
Agency—GRISWOLD-ESHLEMAN CO.
AIR-MAZE CORP. 37
Agency—FULLER & SMITH & ROSS, INC.
AIRESEARCH MFG. CO., DIV OF THE GARRETT CORP. 31
Agency—J. WALTER THOMPSON CO.
ALLEN CALCULATORS, INC. 80
Agency—WESLEY AVES & ASSOCIATES.
AMERICAN BRASS CO. 99
Agency—IVEY & ELLINGTON, INC.
AMERICAN CHAIN & CABLE CO., INC. 33
Agency—REINCKE-ELLIS-YOUNGREEN & FINN, INC.
AMERICAN DISTILLING CO., INC. 101
Agency—JONES & BRAKELEY, INC.
AMERICAN MAGNESIUM CO. 71
Agency—FULLER & SMITH & ROSS, INC.
AMERICAN TELEPHONE & TELEGRAPH CO. 73
Agency—N. W. AYER & SON, INC.
ARMSTRONG CORK CO. 75
Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.
ATLAS POWDER CO. 81
Agency—THE AITKIN-KYNETT CO.
BARDCO MANUFACTURING & SALES CO. 109
Agency—WEST-MARQUIS, INC.
BOEING AIRPLANE CO. 65
Agency—N. W. AYER & SON, INC.
BRIDGEPORT BRASS CO. 67
Agency—HAZARD ADVERTISING COMPANY
BURROUGHS ADDING MACHINE CO. 21
Agency—CAMPBELL-EWALD CO., INC.
CHEMICAL INDUSTRIES, 19th EXPOSITION OF 44
Agency—O. S. TYSON & CO., INC.
CHESAPEAKE & OHIO LINES 3
Agency—KENYON & ECKHARDT, INC.
CINCINNATI TIME RECORDER CO. 106
Agency—FREDERIC W. ZIV, INC.
CLARAGE FAN CO. 10
Agency—W. J. WILLIAMS ADVER. AGENCY
THE COLSON CORP. 55
Agency—MEERMANS, INC.
COMMONWEALTH OF PENNSYLVANIA. . 29
Agency—KETCHUM, MACLEOD & GROVE, INC.
CONE AUTOMATIC MACHINE CO. 51
Agency—HENRY A. LOUDON ADV. AGENCY
CONNECTICUT GENERAL LIFE INSURANCE CO. 111
Agency—EDWARD W. ROBOTHAM & CO.
CONTINENTAL CAN CO., INC. 77
Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.
COOK ELECTRIC CO. 93
Agency—J. R. HAMILTON ADV. AGENCY
RALPH C. COXHEAD CORP. 89
Agency—O. S. TYSON & CO., INC.
DELUXE PRODUCTS CORP. 66
Agency—VAN AUKEN-RAGLAND, INC.
HENRY DISSTON & SONS, INC. 74
Agency—GEARE-MARSTON, INC.
DRESSER INDUSTRIES 87
Agency—FULLER & SMITH & ROSS, INC.
DUREZ PLASTICS & CHEMICALS, INC. 85
Agency—J. M. MATHES, INC.
ELECTRIC EYE EQUIPMENT CO. 59
Agency—ALMON BROOKS WILDER, INC.
ERIE RAILROAD CO. 86
Agency—THE GRISWOLD-ESHLEMAN CO.
FAFNIR BEARING CO. ..... 3rd Cover
Agency—HORTON-NOYES CO.
FAIRBANKS, MORSE & CO. 56, 57
Agency—HENRI, HURST & MCDONALD, INC.
FAIRCHILD ENGINE & AIRPLANE CORP. 6
Agency—CECIL & PRESBREY, INC.
FELKER MFG. CO. 27
Agency—DOLSIER-GRAHAM-EASTMAN, ADV.
FORD, BACON & DAVIS, INC. 106
Agency—MCCANN-ERICKSON, INC.
FRIDEN CALC. MACHINE CO. 42
Agency—GEORGE I. LYNN, ADVERTISING
GENERAL BAG CORP. 54
Agency—THE HUBBELL ADV. AGENCY, INC.
GENERAL ELECTRIC CO. 43
Agency—N. W. AYER & SON, INC
GENERAL ELECTRIC CO. 12
Agency—NEWELL-EMMETT CO.
THE GLOBE-WERNICKE CO. 84
Agency—RUTHRAUFF & RYAN, INC.
THE B. F. GOODRICH CO. 1
Agency—THE GRISWOLD-ESHLEMAN CO.
GRAYBAR ELECTRIC CO. 103
Agency—G. M. BASFORD CO.
GRAY MFG. CO. 42
Agency—JOHN O. POWERS CO.
GREAT NORTHERN RAILWAY 46
Agency—REINCKE, ELLIS, YOUNGGREEN & FINN, INC.
JAM HANDY ORGANIZATION 91
Agency—CAMPBELL-MITHUM AGENCY
JOSHUA HENDY IRON WORKS 49
Agency—WEST-MARQUIS, INC.
HERCULES POWDER CO., INC. 78
Agency—FULLER & SMITH & ROSS, INC.
WM. E. HOOPER & SONS CO. 105
Agency—MCLAIN ORGANIZATION, INC.
HOTEL LENNOX 54
Agency—GARDNER ADVERTISING CO.
HUGHES-KEENAN CO. 52
Agency—CARR LIGGETT, ADVERTISING
INTERNATIONAL CHAIN CO. 79
Agency—THE AITKIN-KYNETT CO.
INTERNATIONAL MINERALS & CHEMICAL CORP. 61
Agency—C. FRANKLIN BROWN & CO.
JOYCE MACHINE CO. 53
Agency—SEDERHAGEN, INC.
KEARNEY & TRECKER 68
Agency—KLAU-VAN PIETERSOM-DUNLAP ASSOC., INC.
KEASBEY & MATTISON CO. 4
Agency—GEARE-MARSTON, INC.
KEYSTONE STEEL & WIRE CO. 47
Agency—MACE ADVERTISING AGENCY, INC.
WALTER KIDDE & CO. 64
Agency—NEWELL-EMMETT CO.
KIRSTEN PIPE CO. 44
Agency—PACIFIC NATIONAL ADV. AGENCY
KOPPERS CO. ..... 4th Cover
Agency—KETCHUM, MACLEOD & GROVE, INC.
LINDSAY & LINDSAY 69
Agency—THE FENSHOLT CO.
LYON METAL PRODUCTS, INC. 39
Agency—EVANS ASSOCIATES, INC.
P. R. MALLORY & CO. 25
Agency—THE AITKIN-KYNETT CO.
MANNING, MAXWELL AND MOORE, INC. 30
Agency—BRIGGS & VARLEY, INC.
McGRAW-HILL BOOK CO., INC. 100
MEISSNER MFG. CO. 102
Agency—BURTON BROWNE, INC.
THE MERIAM CO. 106
Agency—THE BAYLESS-KERR CO.
METROPOLITAN LIFE INSURANCE CO. .. 23
Agency—YOUNG & RUBICAM, INC.
MICRO SWITCH CORP. 41
Agency—J. R. HAMILTON ADV. AGENCY
PHILIP MORRIS & CO., LTD., INC. 54
Agency—THE CAPLES CO.
NATIONAL GYPSUM CO. 95
Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.
THE NEW JERSEY ZINC CO. 9
OHIO TOOL CO. 26
Agency—MEERMANS, INC.
OZALID PRODUCTS DIVISION GENERAL ANILINE & FILM CORP. 63
Agency—YOUNG & RUBICAM, INC.
JOHN J. PLOCAR CO. 92
Agency—MELVIN F. HALL ADV. AGENCY, INC.
PRESSED STEEL TANK CO. 28
Agency—THE BUCHEN CO.
THE PULLMAN CO. 36
Agency—YOUNG & RUBICAM, INC.
ROCHESTER ROPES, INC. 88
Agency—L. E. MCGIVENA & CO., INC.
S. K. F. INDUSTRIES, INC. 2
Agency—GEARE-MARSTON, INC.
D. F. STURTEVANT CO. 98
Agency—RICHARD & CO.
TIMKEN ROLLER BEARING CO. 35
Agency—ZIMMER-KELLER, INC.
TOWMOTOR CORP. 32
Agency—HOWARD SWINK ADV. AGENCY
UNION SPECIAL MACHINE CO. 107
Agency—RUSSELL T. GRAY, INC.
U. S. FIDELITY & GUARANTY CO. 97
Agency—VAN SANT, DUGDALE & CO., INC.
UNIVERSAL ATLAS CEMENT CO. 108
Agency—BATTEN, BARTON, DURSTINE & OSBORN, INC.
VAUGHAN MOTOR CO. 40
Agency—HOUSE & LELAND
WAGNER ELECTRIC CO. 72
Agency—ARTHUR R. MOGGE, INC.
WARNER & SWASEY ..... 2nd Cover
Agency—THE GRISWOLD-ESHLEMAN CO.
WARNER ELECTRIC BRAKE MFG. CO. 70
Agency—KLAU-VAN PIETERSOM-DUNLAP ASSOC., INC.
WESTINGHOUSE ELECTRIC & MFG. CO. 45
Agency—FULLER & SMITH & ROSS, INC.
WILLSON PRODUCTS, INC. 8
Agency—JAMES G. LAMB CO.
WINCHESTER REPEATING ARMS CO. 48
Agency—D'ARCY ADVERTISING CO., INC.
W.M.C.A. MOTION PICTURE MAGAZINE. 106
Agency—TERRILL BELKNAP MARSH ASSOC.

that three prominent law firms ha said there would be no tax liability, a explains that the desire is to facilita ultimate consolidation of C.&O., Nick Plate, Pere Marquette, and Wheeli & Lake Erie. The management warn however, that the merger "presents gre difficulties and has been under consi eration for a long period of time witho tangible results."

• **Some Questions**—The commissio for its part, has sent C.&O. a list 30 questions which are among those intends to ask about the new prefere when the hearings open. These a said to include:

Is the proposed issue compatible with t public interest?

Is it "necessary, or appropriate for, consistent with" the proper performance the C.&O. as a common carrier?

Have not earnings used in improvemen and in reducing debts already benefited t common stock by enhancing the value the shares?

Would the Alleghany Corp. get most the new stock distributed?

What "specific benefits" would accrue C.&O. if the issue is O. K.'d?

INSURANCE SALES GAIN

At this time last year, the amount new life insurance being written was a pretty sharp downswing in relation 1941 (except in the case of group i surance). The showing thus far in 194 however, has been definitely more favo able as, according to the September r port just issued by the Assn. of Life I surance Presidents (based on operatio of 39 domestic companies having 81 of the total life insurance outstanding all United States legal reserve comp nies), new paid-for business in the ni months extending through Sept. 30 w up 5.8%.

In September, 1943, total life bu ness ran 28.6% above the same 19 month, providing the largest year-to-ye gain witnessed in any 1943 month. Sa of ordinary life insurance reached $1 000,000, a gain of 33.5%, and group i surance came to $112,700,000, 32.9 above September, 1942.

P. S.

A test, long-desired by many in t federal government who want to see i surance regulated from Washingto now is assured. The Supreme Cou will review the district court decisi dismissing the antitrust action agai 200 southeastern fire insurance comp nies (BW—Aug.14'43,p108) on t grounds that insurance is not commerc "either intrastate or interstate." . . . issuing a ruling that puts a ceiling profits that may be charged by membe the National Assn. of Securities Deal has undertaken to sidetrack the Secu ties & Exchange Commission's "f disclosure" rule (BW—May15'43,p10

THE TRADING POST

Educator Replies

A. Hughes, Superintendent of ools in Red Lake Falls, Minn., an- a question recently raised on this

ve just finished reading "What About ation?" in your Oct. 2 issue. Here is er "educator" who is not surprised e lugubrious evidence presented. I been looking at it or its equivalent ince I began teaching twenty-five years Probably the situation has deteriorated what during that period—in my judg- it has—but the foundations for the le were evident twenty-five years ago. hat does surprise me is the pained sur- registered by The Trading Post at late date. Of course, its groans are d by practically every layman with even ormal powers of observation. The time rrived when he who runs may read. ou ask, "What are we doing about it?" answer may be clearer if we consider responsibility intelligent and respon- laymen have had for the present situ- Since I have taken many a bitter as one of the unpopular group of "es- alists," I feel no chagrin when the e is made that education in these ed States has been a poor bargain. I my feeble best to stem the tide. But e interest of justice, let us not leave lame where you seem to have heaped ost of it does not belong there.

* * *

is axiomatic that public education in United States meets public demand. If statement is not self-evident, examine history of education, and note how ular modifications, for instance, have e about. We are on the threshold of developments that will come chiefly se of such observations as yours.

other words, the public paid its money took its choice; and the choice was takably and enthusiastically for just it got: sloppy education in large doses. y of voices cried in the wilderness; ance of the issue is hardly an excuse, gh apathy might be.

may be argued with some force that situation is not so black as The Trading pictures it. Even such education as have had has been far from a total When a generation reared by com- consent as utter pacifists hangs up record our kids have established in the best war to date, someone has a little coming. Even the most egregious derers among us must have done a few important things right; and the layman no more right to claim all the credit he has to dodge all the blame. I waive argument as a secondary issue. You are at least to this extent; we could have much better. Why didn't we?

rst, because the public would back ing but soft pedagogy. Secondly, be- democracies in general, and ours most particular, treat education as a poor re- n, worthy of lip service, but of little ey and less thought

Admittedly we pay much more for education now than at any given time in the past. That proves precisely nothing. We authorized an expanded program. The fact that we paid more for it does not prove that we paid what we should have to implement the very ambitious project we undertook. It is my contention that we plumped for tremendous expansion, and then got cold feet on the financing. For proof, no mountains of statistics are necessary.

We have cut corners by hiring low-paid labor. We have consistently offered far lower salaries than obtain in business for comparable training. A graduate of the Institute of Technology at the University of Minnesota goes out in normal times at about $1,800. A science major from the College of Education in the same institution has a hard time finding a job at $1,000 (in normal times, remember). Is it surprising that the average intelligence of students in the College of Education is markedly lower than of those in the Institute of Technology?

Minnesota reduced its bonded debt on schools by an amount surprisingly coincident with the amount teachers' salaries were cut during the depression. In the name of economy we have made teaching financially so unattractive that only a fool or a fanatic enters the profession. Thank God, there always seems to be a leavening of fanatics (some people and most business men will prefer to read "fools") who "set the game above renown" and disregard finances as secondary in choosing a vocation. Not all teachers are stupid, your alarming examples of results of their teaching to the contrary notwithstanding.

* * *

What are we going to do about it? First, I hope, we are going to adopt a well-thought-out philosophy of education. Secondly, we are, I hope, going to back our program with whatever financing it needs; staff it with some of our best talent by the businesslike procedure of paying for what we expect to get and then seeing that we get it; and support it vigorously and effectively in the housecleaning that will follow.

* * *

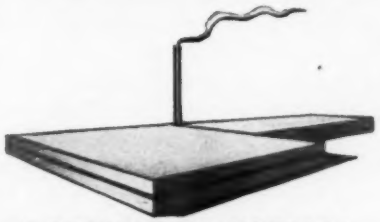
Any fair critic will agree with Mr. Hughes that low pay and public indifference have had their part in sloppy education.

I'm not quite sure what he means by "soft pedagogy." Maybe it's what I call taking too much discipline out of education and catering too much to the whims of the pupils. So many parents want their youngsters "to pass" without really serious effort that we may have lowered our standards to fit the feeblest and laziest minds.

General mastery of Mr. Hughes' "essentials" can be achieved only when more homes accord to the business of educating their children a priority over the movies, the radio, the comic strips, and the other modern diversions of childhood and adolescence. Or is that too much to ask?

W.C.

ANYTHING THAT PROTECTS EMPLOYEES



PROTECTS INDUSTRIAL WAR PRODUCTION . . .

WHICH IN TURN PROTECTS OUR ARMED FORCES

THE "PROTECTED PAY ENVELOPE"* DOES THIS IMPORTANT CIVILIAN WAR JOB.

. . . by providing basic group insurance protection for countless war production plant employees.

*The Protected Pay Envelope provides, singly or in combination, Group Life, Accident & Sickness Insurance, Hospital Expense benefits and a Retirement Income for employees.

FOR DETAILS, WRITE

CONNECTICUT GENERAL LIFE INSURANCE COMPANY HARTFORD, CONNECTICUT

THE TREND

THE HIGH (HOW HIGH?) COST OF LIVING

Last week, President Roosevelt promised top labor leaders an investigation into the adequacy of the Bureau of Labor Statistics index as a measure of the cost of living. Thereby, he finally took cognizance of the attacks on BLS's accuracy—a matter of vital concern to the basic anti-inflation program.

However, it is worth noting that two objections have been made—not just one—to the use of the BLS index in such policies as the Little Steel formula. The second questions the logic of comparing living costs with hourly wage rates rather than with weekly take-home pay (BW—Aug.28'43,p120). And both must be considered before any revision in wage policies can be fairly arrived at.

• **As for the index itself,** not only union officials but also many economists and statisticians have called it inadequate. Obviously, its degree of error isn't subject to any exact estimate. But one statistical indication is obtained by taking the dollar volume of consumer expenditures on goods and services, and correcting for the price increase by the cost-of-living index. Presumably, this should give the physical volume of purchases of goods and services. However, such an operation shows a 4% higher level of physical consumption during 1943 than in early 1941.

This does not jibe with what figures we have on declines in civilian supplies of such important goods as autos, foods, shoes, cotton textiles, wool clothing, gasoline, or in such services as laundries. The implication—which cannot be clear-cut—is that the BLS index is inadequate, that an adequate measure would show a larger price increase and a smaller physical supply.

In general, criticism of the BLS index is leveled at the methods used in its computation. Now, a committee of the American Statistical Assn. has just reported the results of its investigation into the index, undertaken at the request of the BLS. It finds, from field tests, that the bureau reports food prices actually paid, that the sample of food stores is representative, and that most price violations in regular food stores are actually recorded. It considers BLS data on rents representative and accurate and believes that the goods and services priced are typical of the wage-earner budget.

• **This covers a good many** of the criticisms, particularly as regards the chief items in the budget—food and rent. The committee does admit that there has been considerable and unmeasured quality deterioration—in goods, housing, and services. Furthermore, its tests automatically exclude any measurement of the effect of black marketing of the truly bootleg variety (as distinguished from violations made in regular distribution channels). Also there is the point that BLS procedures are slow to reflect the wartime flow of goods towards higher-priced lines and stores, and the cessation of peacetime special sales. And the committee would like more commodities priced and more cities surveyed; conceivably, larger samples might uncover special biases in the current index.

These and similar questions remain to be investigated. Until they are, criticism won't be quieted by the A.S.A. report's conclusion that "the Bureau's index provides an acceptable approximation to recent changes in the cost of living for urban workers."

• **Some of the objections** advanced by labor are the same as those made by unbiased technical observers. But labor has others that are more dubious. For example, unions have surveyed food prices by comparing current store advertisements with those of peacetime. The trouble with this is that peacetime advertisements stressed "leader" sales which are much less numerous now. So the procedure sharply exaggerates the rise in average prices. Again, some labor leaders complain that an insufficient weight was given food prices in the living cost total. But the weights represent the actual proportions of the average urban worker's budget spent on food, rent, and clothing. The complaint is valid only with respect to workers with much lower incomes than the average. Of course, food expenditures form a larger part of their total budgets. Since food prices have gone up most, living costs for very low-income workers have gone up more than the index shows.

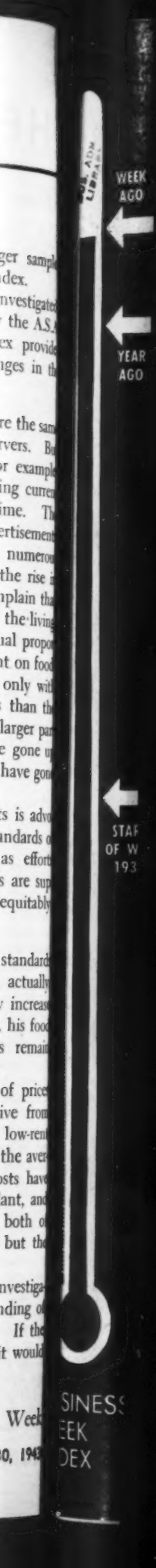
Sometimes, inclusion of taxes in living costs is advocated, but this confuses costs of living with standards of living. In war, living standards must fall, as efforts shift from civilian goods to munitions. Taxes are supposed to distribute the burden of this decline equitably; price increases do it by happenstance.

• **The confusion between living costs** and standards results in complaints about costs rising when, actually, it is standards that have risen. Thus, if a pay increase leads a consumer to buy meat instead of bread, his food costs go up even if meat and bread prices remain unchanged.

In some cases, however, a living-cost index of prices fails to show higher costs of living that derive from changed expenditure. A worker moves from a low-rent area of labor surplus to a high-rent war center; the average of rents may remain the same, but his costs have gone up. Or a woman takes a job in a war plant, and the family starts eating in restaurants; prices both of foods and of restaurants may stay unchanged, but the worker's costs have mounted.

One result of the President's call for a new investigation into living costs may be a fuller understanding of the meaning of and use for an index of them. If the move should contribute to that understanding, it would be worthwhile on those grounds alone.

The Editors of Business Week


WEEK AGO
YEAR AGO
STAF
OF W
193
SINES
EEK
DEX